

2020 African Chapters Advocacy Meeting
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Measuring the Internet

Telling stories with data



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Measuring the Internet – Why?

- The Internet Society's efforts focus on increasing the Internet's reach, reliability and resilience and ensuring that it remains open, globally connected, secure, and trustworthy.
- How can we assess whether our efforts – and the efforts of other Internet industry organizations – are working?
- We want to everyone to have access to data-driven insight into the health, availability and evolution of the Internet.

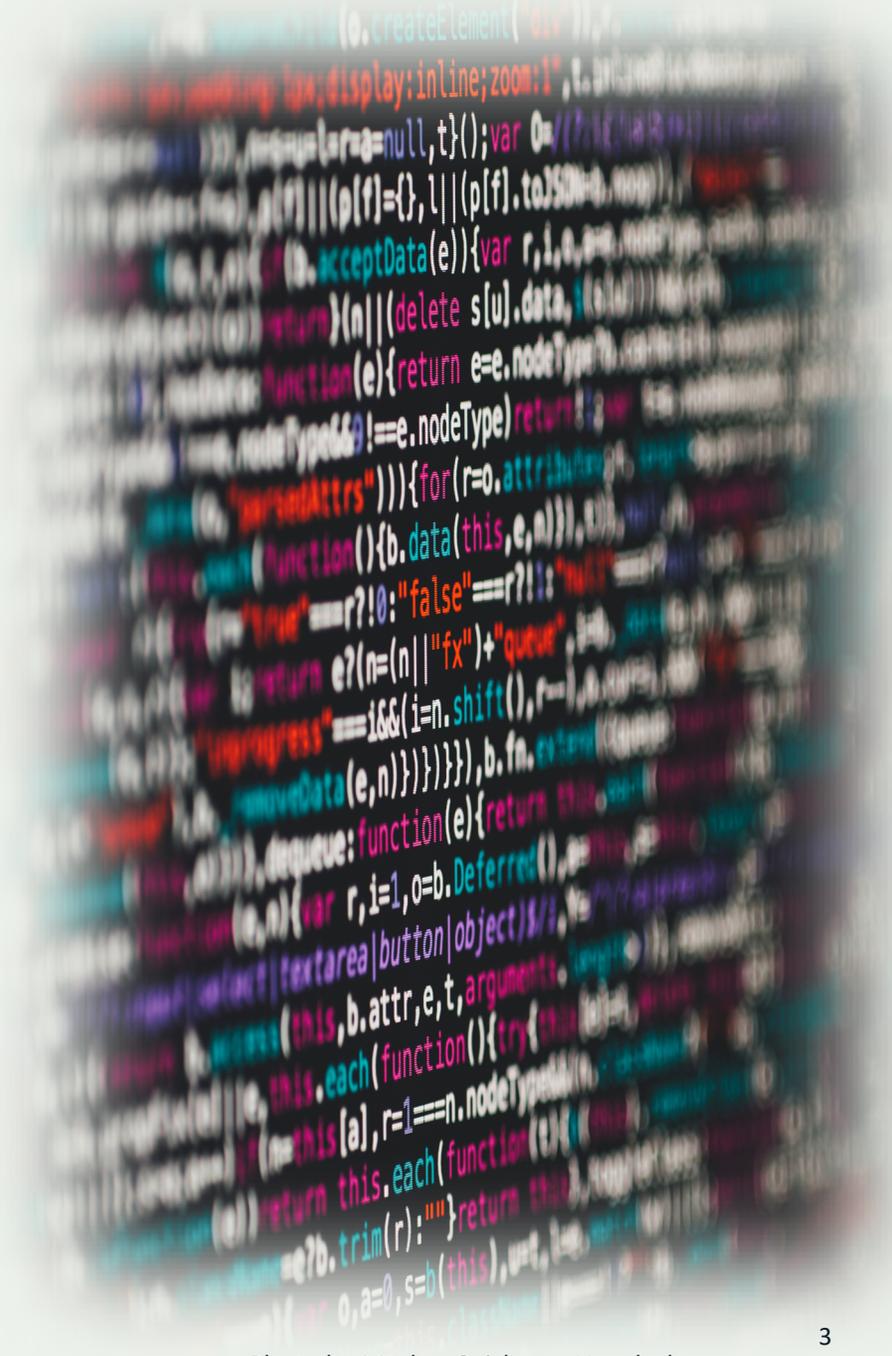


Measuring the Internet – What?

- We're consolidating trusted third-party Internet measurement data from various sources into a single platform:

insights.internetsociety.org

- We'll examine trends, publish reports, and tell data-driven stories and encourage everyone to do the same.
- *Insights* will be available to everyone including policymakers, researchers, journalists, network operators, civil society groups.



Measuring the Internet – How?

- Present, visualize, analyze and provide insights into Internet measurement data from trusted third-party sources.
- Four Focus Areas:
 - Internet Shutdowns – *launching in 2020!*
 - Enabling Technologies – *launching in 2020!*
 - Internet Resilience (Africa)
 - Internet Way of Networking (IWN)
- The Internet Society will **not** perform any measurements or collect any data itself.



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Internet Shutdowns

- *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.
- **Insights** provides a platform for Internet Society Chapters, civil society groups and others in impacted countries to share first-hand accounts of social/economic impacts.

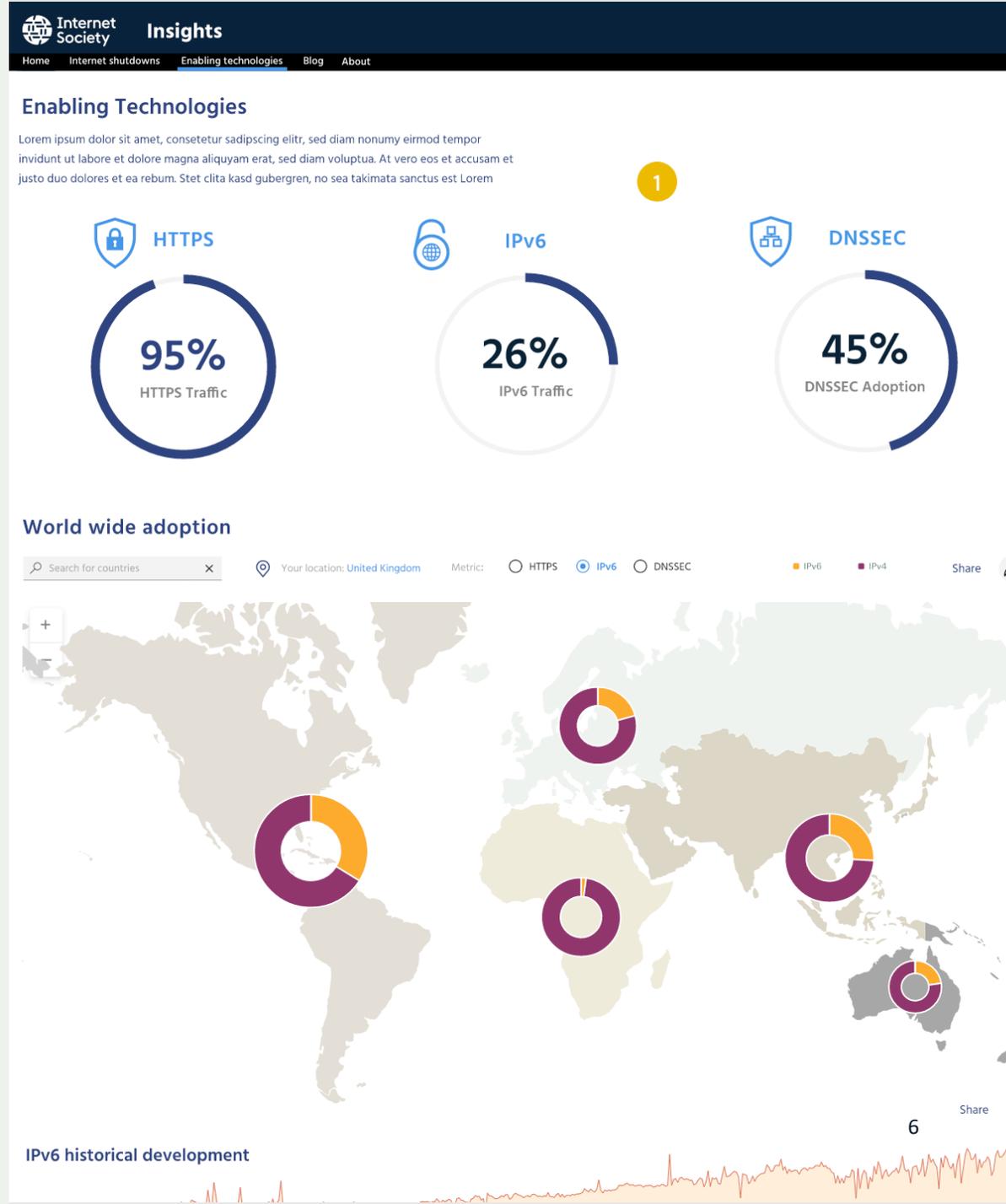


The screenshot displays the 'Internet Shutdowns' interface on the Internet Society Insights platform. At the top, the navigation bar includes 'Home', 'Internet shutdowns', 'Enabling technologies', 'Blog', and 'About'. The main heading is 'Internet Shutdowns', followed by a placeholder text: 'Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita'. Below this is a search bar with the text 'Search for countries, cause, media coverage or hashtags' and a date range of 'January 1, 2019 - December 31, 2019'. The 'View' section has three options: 'Duration' (selected), 'Count', and 'Financial impact'. The main visual is a world map with orange circles of varying sizes indicating shutdown locations. Below the map is a bar chart for the year 2019, showing monthly activity. The 'Events' section is currently set to 'July 2020' and lists three events:

Year	Date	Country	Time	Authority	Duration
2020	27	Algeria	July 27, 16:25 - 19:49 GMT	Executive government	3 hours 24 minutes
2020	26	Yemen	July 26, 10:01 - 15:00 GMT	Executive government	2 hours 1 minute
2020	19	Congo	July 19, 16:25 - 18:46 GMT	State government	2 hours 21 minutes

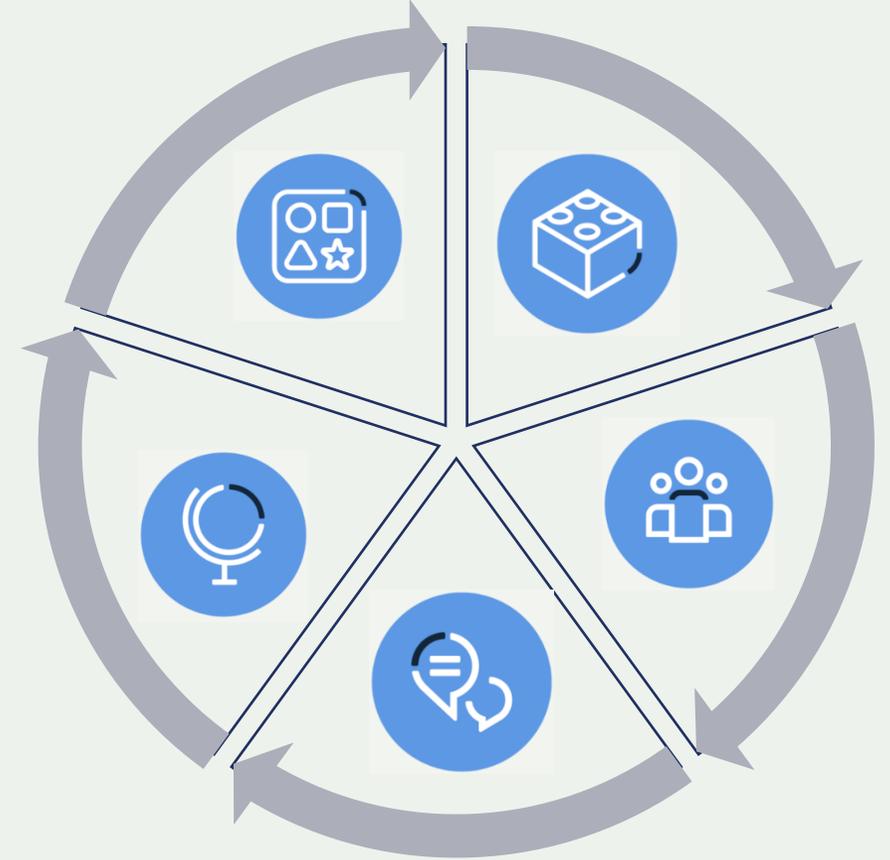
Enabling Technologies

- *Enabling technologies contribute to improving the scalability, security, trust and availability of the open Internet.*
- **Insights** will launch with data on IPv6, TLS1.3, DNSSEC, HTTP/3, and HTTPS.
- Plan to add more technologies over time.
- **Insights** can support local and regional advocacy on technology deployment initiatives with data from several sources.



Internet Way of Networking (IWN)

- What makes the Internet such a success, and how can we ensure its future?
 - A general purpose network.
 - An accessible infrastructure with a common protocol.
 - A common global identifier system.
 - A layered architecture of interoperable, reusable building blocks.
 - Decentralized management and distributed routing.
- **Insights** will track metrics and present data based on the IWN framework.

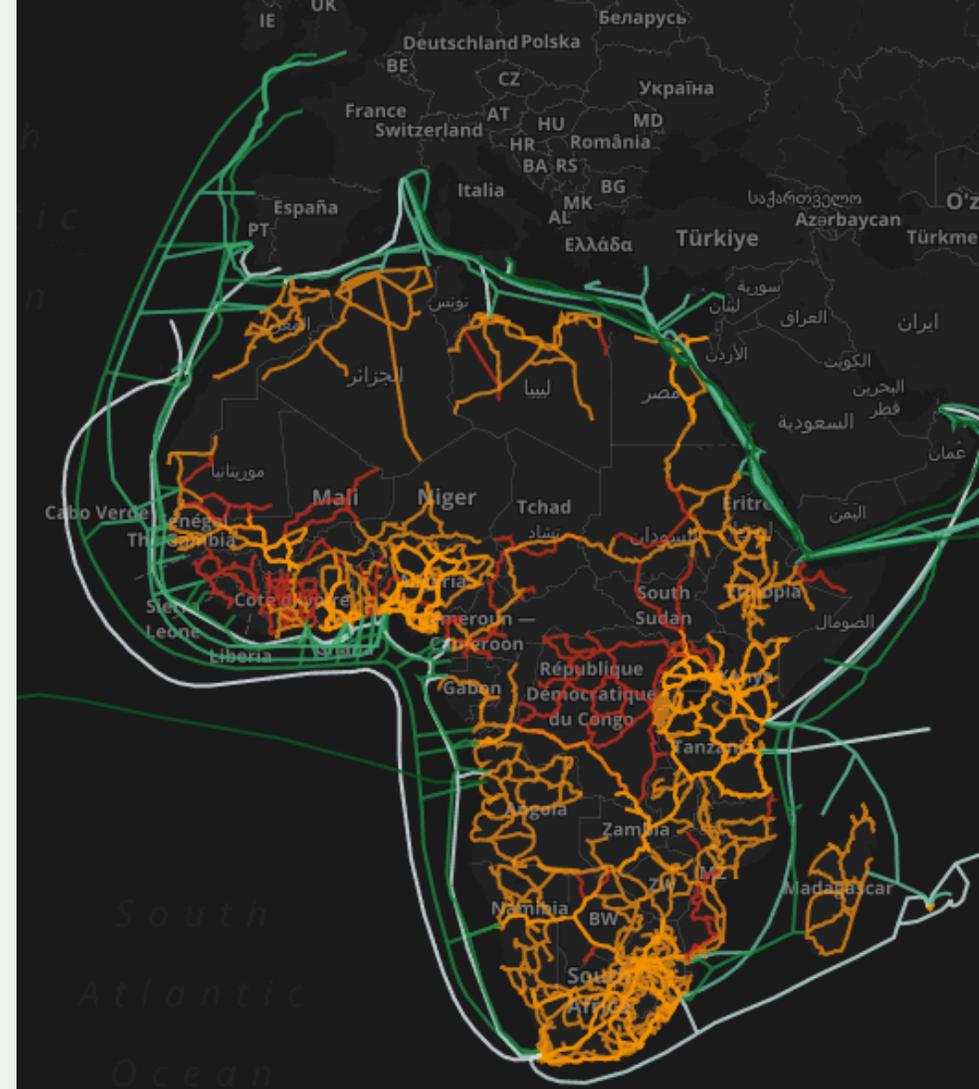


<https://www.internetsociety.org/issues/internet-way-of-networking/>



Internet Resilience

- *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 and the intention is to scale globally.
- Currently developing methodologies and identifying initial target countries.
- Building strategic relationships with key measurement, technical, and regulatory communities across the continent.



Background: Africa Internet Resilience

- For many in the African region, frequent Internet interruptions or at least service degradations occur making for a disjointed Internet experience.
- Internet Measurement data on African countries is sparse and distributed making it challenging to accurately determine the state of the Internet in Africa:
 - What are the different Internet experiences on the African continent?
 - How do statistics measured using tools match user experience?
 - What policies are beneficial or have positive impact in improving Internet Resilience



Sustained Internet Resilience Measurements

AFRINIC & ISOC are working to
Measure Internet Resilience in Africa (MIRA)

1. To determine levels of Internet Resilience in select countries
 - Identify metrics
 - Identify a scalable method to measure Internet resilience
2. To present accessible measurement findings for users at all levels
 - Policy makers
 - Tech engineers
 - Internet users



Benefits of Measuring Internet Resilience

- Provide up to date information on the quality of Internet connectivity in different African countries
- Provide timeline of improvements to Internet reliability in African countries
- Provide an easy to use platform to help Internet users better understand the different aspects of Internet reliability
- Provide insights into policies that contribute to more resilient Internet connectivity
- Identify a scalable model for future Internet resilience measurements in other regions



Work done so far?

- Signed MoU with AFRINIC
- Webinars to engage and update the community
- Research to develop metrics and methodology
- Identified countries and measurement platforms
 - Will rely initially on M-Lab and RIPE infrastructure in the early stages to carry out and refine the measurements
- Tested prototype measurement platform
- Defined roles & selected countries to work with



Countries to be studied at the initial stage

Country	RIPE Atlas Anchor	M-Lab Server
Benin 		
Burkina Faso 		
DRC Congo 		
Ethiopia 		
Kenya 		
Madagascar 		
Mauritius 		
Nigeria 		
South Africa 		
Tunisia 		

- Carry out qualitative and quantitative measurements
- Maximum of 5 ISPs per country to be included in a phased approach
- Qualitative: mainly using measurement tools
- Quantitative: mainly using surveys & forms



Measurement roles

- **Qualitative:** Volunteers to help with qualitative data collection
 - Provide info on connectivity, pricing
 - Provide info on uptime & downtime
 - *Within the 10 countries*
- **Quantitative:** Experts to help with hosting and maintaining probes
 - Configure and manage probes
 - Provide supporting data in relation to probe
 - Connectivity costs, uptime & pricing
 - Outages, service degradation and causes
 - *Within the 10 countries*



Timeline & more information

- 2020 timeline
 - August 2020: Definition and draft framework document
 - September 2020: Select countries & test of measurement infrastructure
 - October 2020: Carry out Measurement campaign
 - November 2020: Data gathering and analysis
 - December 2020: Reports
- More information & updates will be available via <http://bit.ly/measurement-wg>



Calls to Action

Internet shutdown in your country? – reach out to measuring@isoc.org

Write about your experience of an Internet shutdown

Share insights.internetsociety.org with your networks

Follow [@isoc_insights](https://twitter.com/isoc_insights)

Provide feedback via SurveyMonkey or direct to measuring@isoc.org

Join this list for updates on MIRA: <http://bit.ly/measurement-wg>



Thank you.

<https://insights.internetsociety.org/>

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