



Barriers to Internet Access of Services (BIAS) Workshop Report

[draft-iab-bias-workshop-report-00](#)

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IABOpen @ IETF 119

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Aim of the Workshop

- The Internet is a crucial component of our critical infrastructure that wields a significant influence on various aspects of society.
 - It serves as a vital tool for advancing the United Nations' Sustainable Development Goals ([SDGs](#)) and upholding human rights on a global scale.
- Absence of meaningful access to digital infrastructure and services amounts to a form of disenfranchisement.
 - Solely having Internet access is not enough. There are more and more barriers to meaningful access to the services and applications that run on the Internet.



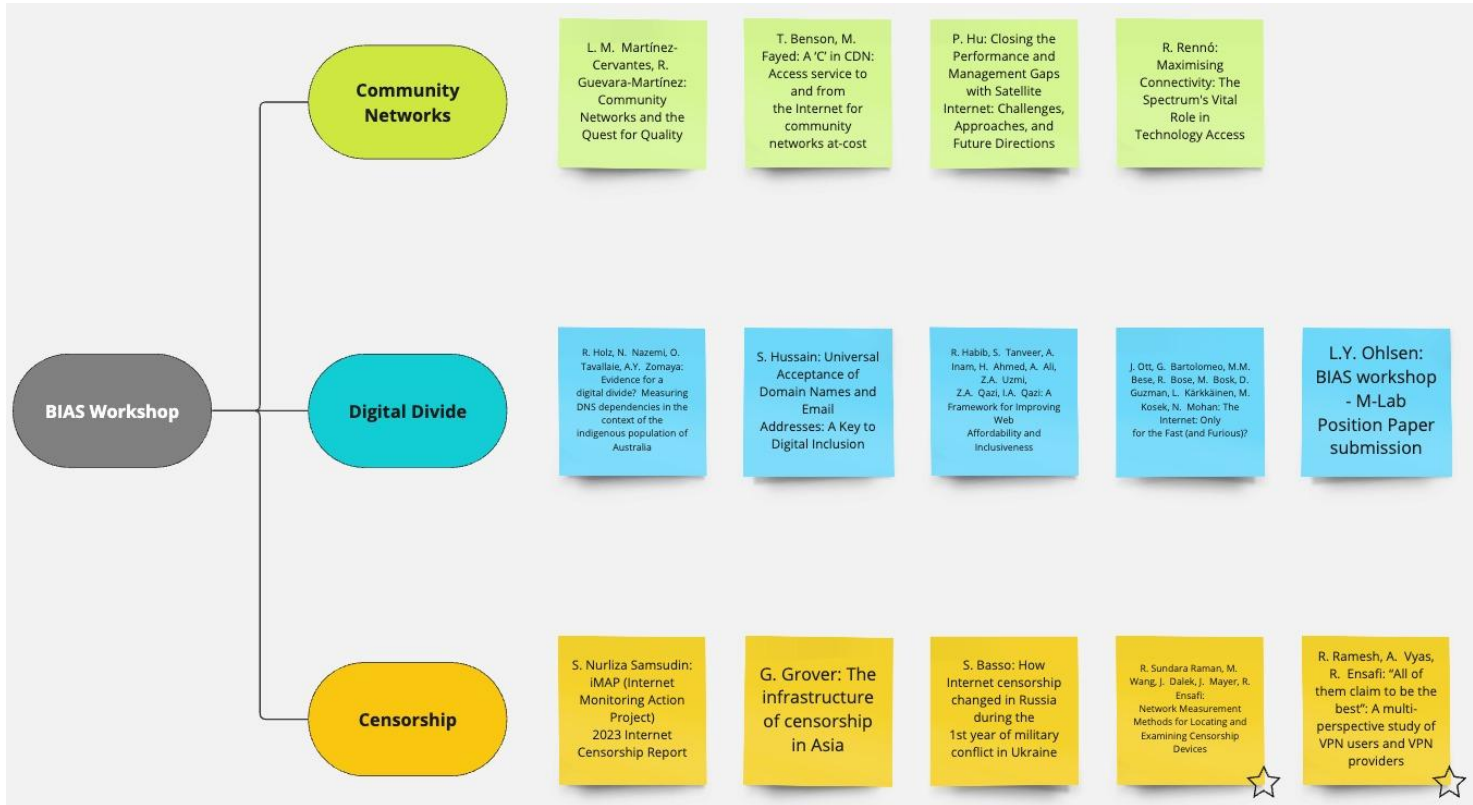
Aim of the Workshop

- The IAB Workshop aimed at
 - collect reports about barriers to accessing content and services on the Internet (blocking, filtering,...)
 - help better understand how Internet functions in different parts of the world
 - build a better understanding of what “being connected” to Internet means?
 - What is the Internet to users?
 - What is needed to be meaningfully connected?
 - What are the minimum requirements to be able to access certain parts of the content and services provided over the Internet?



Brief Introduction

- Workshop: Barriers to Internet Access of Services (BIAS)
- Date: 15-17 January 2024
- Format: 3 days, for 2 hours each day, full online
- Position Paper Received: 19
- Position Paper Selected: 12
- Invited Talks: 2
- Total Participants: 40
- Workshop Program Committee: Mirja Kühlewind, Mallory Knodel, Tommy Pauly, Christopher A. Wood, and Dhruv Dhody
- Themes
 - Community Networks - their role in Internet access
 - Digital Divide - reports and comments
 - Censorship - reports and circumvention
- Details (including recordings): <https://datatracker.ietf.org/group/biasws/>



Received Position & Invited Papers



Community Networks

- Moderated by: Dhruv Dhody
- Community Networks are self-organized networks which are wholly owned by the community and thus provide an alternative mechanism to bring connectivity and Internet services to those places that lack commercial interest.
- Discussion on
 - Need for measuring Quality of Experience (QoE) for Community Networks,
 - Potential role a Content Delivery Network (CDN) can play in Community Networks,
 - Role of satellite networks,
 - Role of the spectrum in this space.



Digital Divide

- Moderated by: Mallory Knodel
- The digital divide refers to disparities in access to the Internet and services.
 - It signifies the gap between those who have effective and meaningful access to digital technologies and those who do not.
- Discussion recognized three key aspects of the digital divide:
 - differences between population demographics in the provision of online resources by governments,
 - inequality in the use of multilingual domains and email addresses,
 - increased costs for end-user downloads of contemporary websites' sizes.
- *There was a general recognition that there are more technical aspects of the digital divide that were not presented.*



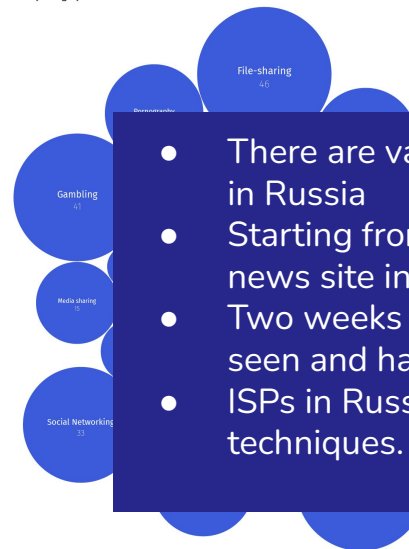
Censorship

- Moderated by: Mirja Kühlewind
- Censorship is the legal control or suppression of what can be accessed, published, or viewed on the Internet.
- This discussion focused on
 - reports of censorship as observed during recent years in different parts of the world, as well as on the use of and expectation for censorship circumvention tools, mainly the use of secure VPN services.
 - This included censorship reports from India and Russia, where censorship has changed significantly recently, highlighting the legal frameworks and court acts that put obligations on regional network providers to block traffic.
 - Further, measurements to validate the blocking, as well as analyses of how blocking is implemented were also discussed.

Example: How Internet censorship changed in Russia during the 1st year of military conflict in Ukraine by S. Basso

Categories of restricted content in Russia

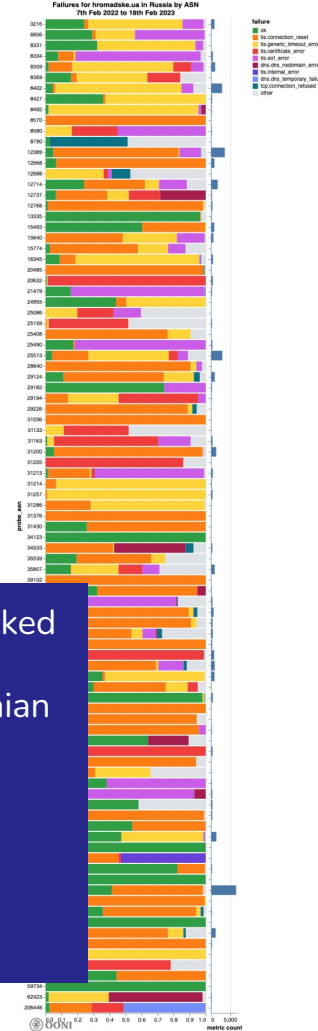
Domains found to be blocked in Russia from January 2022 to February 2023 by category.



Russia

Web Connectivity Test, hromadske.ua

OK Count Confirmed Count Anomaly Count Failure Count
























- There are various categories of websites (with primary being News-Media) that are blocked in Russia
- Starting from 7th February 2022, OONI data shows the blocking of Hromadske, a ukrainian news site in Russia.
- Two weeks before the start of the conflict in Ukraine, a large number of anomalies were seen and have persisted to this day
- ISPs in Russia blocked access to Hromadske using a variety of different censorship techniques.

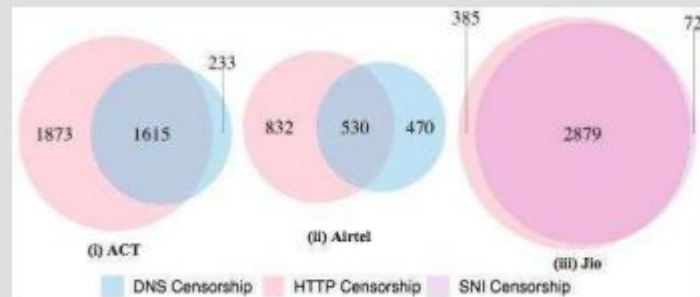


Example: Online Censorship in India by G. Grover

Results: Censorship Techniques

			
ACT			
Airtel			
BSNL			
Jio			
MTNL			
Vodafone			

Different censorship mechanisms, individually or in combination to censor websites.



Censorship techniques used by ACT, Airtel and Jio

There are no standard way of website blocking and each ISP is using combination of techniques, sometimes in arbitrary way without legal backing!



Key Takeaways

- Need for the technical community to address the management gaps in operating Community Networks
 - Documenting best operational practices
 - Explicit manageability considerations related to Community Networks
- Need to build consensus on solutions that have the most significant impact in fostering digital inclusion
 - Further promote them to make sure they are effective and inclusive
- Need to continue to work towards enhancing our protocols ensuring user privacy, develop further protocols that enable more transparency on filtering and promote their use and deployment
- New VPN-like services and potentially support measurements to understand their deployment and use
- Further discussion of these topics could happen in
 - Global Access to the Internet for All ([GAIA](#))
 - Human Rights Protocol Considerations ([HRPC](#))
 - Privacy Enhancements and Assessments ([PEARG](#))
 - Measurement and Analysis for Protocols ([MAPRG](#)) research groups
 - Community could also explore if a censorship (and its circumvention) focused group could be created...

Thanks!

Thanks to everyone who submitted position papers and participated in workshop,
as well as everyone who reviewed the workshop report!

