IGF 2025

Policy Network on Internet Fragmentation (PNIF)

Discussion paper

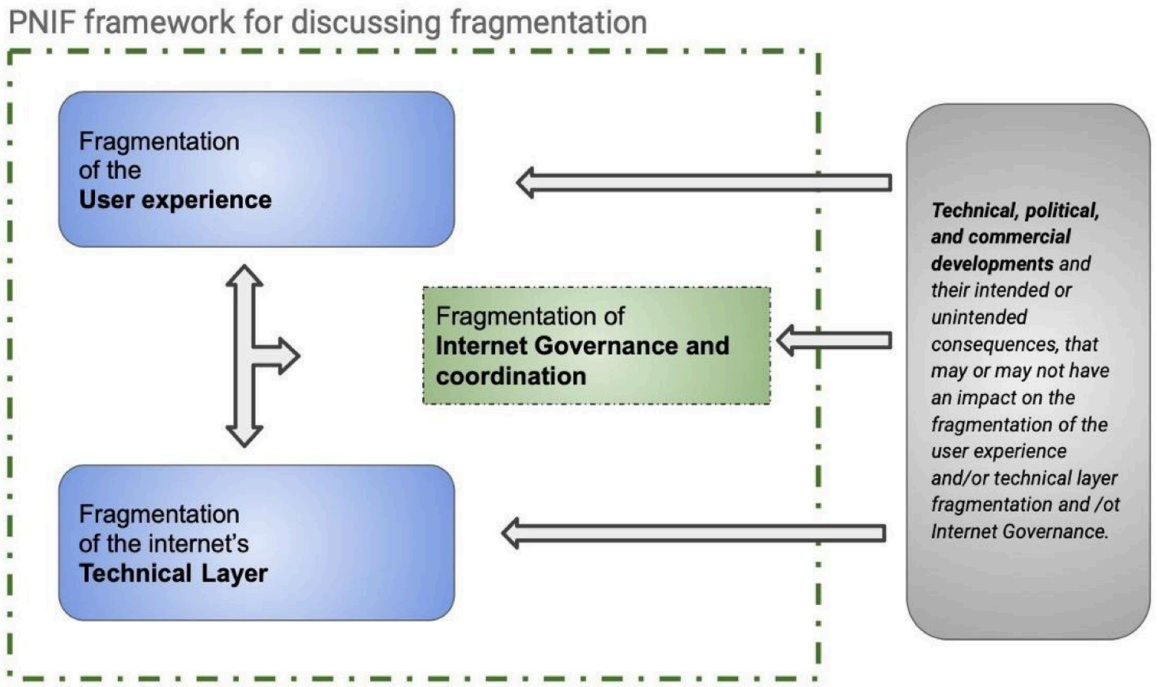
Version August 2025

About this document

This iterative paper captures and advances PNIF discussions, drawing on ideas shared in PNIF meetings and feedback received. It will be updated as needed and will feed into the PNIF 2025 output document.

I. Introduction

1. **The IGF Policy Network on Internet Fragmentation (PNIF)** was set up in 2022 to address the question of Internet Fragmentation, to raise awareness of actions and measures that risk fragmenting the Internet, and to facilitate discussion on what could be done to avoid such fragmentation. The PNIF developed its *PNIF Framework for discussing fragmentation* that differentiates between fragmentation of the Internet *User experience*, fragmentation of Internet *Governance and coordination*, fragmentation of the Internet's *Technical Layer*, and technical, political and commercial developments that may have an impact on fragmentation. The aim of the Framework is to serve as a general guiding tool for continuing the dialogue about fragmentation.



2. **The GDC Commitment :** In the Global Digital Compact UN Member States commit to '*Promote international cooperation among all stakeholders to prevent, identify and address risks of fragmentation of the Internet in a timely manner (SDG16)'* (Objective 3, art 29, (c)). This commitment is accompanied by the commitment to refrain from Internet shutdowns (art 29, (d)). Both commitments are connected to SDG16, which focuses on promoting peaceful and inclusive societies and building effective, accountable, and inclusive institutions.

3. The following text is structured in parts: the first section is dedicated to identifying risks of Internet fragmentation in the current landscape, while the second section examines the need for multistakeholder cooperation to prevent, detect, and address fragmentation, as well as ongoing initiatives already dedicated to this purpose.

II. Current state of Internet fragmentation - …. *Identifying risks of fragmentation*

The PNIF discussions identified the following trends that may cause or worsen fragmentation of the Internet in 2025.

- **Geopolitical tensions and strengthening the state power for national and economic security**

4. The inherent tension between the cross-border nature of the Internet and territorially grounded political and legal systems is fuelling fragmentation. Today's geopolitical tensions intensify this trend with digital sovereignty and reterritorialisation used to strengthen state power for national security and protectionist aims, moving away from goals of protecting human rights and fostering competition online. The growing entanglement between national and economic security prompts states to pursue a dual strategy of leveraging digital interdependencies for geopolitical goals while seeking autonomy in critical digital domains.

- **Political control, state power and censorship**

5. Internet control increasingly shifts to the power of the state and as such censorship, shutdowns, network fragmentation are becoming normalised instruments of governments. This global trend happens at scale, not in the margins, and risks deepening if not addressed. In the Intergovernance dialogue, including at the IGF, discussions on AI overshadow discussions on censorship and shutdowns. The GDC framework, framed as a roadmap, risks inadvertently legitimising fragmentation by reinforcing national sovereignty over domestic networks, potentially giving cover to state-led shutdowns and repression. Human rights in

internet governance must be more than rhetoric—we need mechanisms that make shutdowns more difficult and costly for governments to implement.

6. The push for digital sovereignty and greater governmental control poses particular risks, as regulating a borderless Internet inevitably affects its architecture, infrastructure, and core technical functions. Governments have legitimate reasons to regulate, but they must also remain aware of these broader implications. Building trust between regulators and the technical community, and fostering collaboration and mutual understanding, is critical to ensuring that necessary regulation does not undermine the global interoperability of the Internet.

7. Fragmentation is inherently political and occurs when someone, somewhere, decides that a user cannot access certain content or services. Preventing this requires discussion and action at the political level. The PNIF could share evidence and build a common understanding to inform policy processes.

8. Funding for the development of Internet freedom tools is collapsing at the worst possible time. Funding must be stabilised to prevent existing tools from disappearing, alongside support for local training, help desks, and a rapid mapping of the impact of budget cuts to guide emergency funding for the next six months. In the longer term, digital resilience should be treated as essential infrastructure. This includes supporting open alternatives to big tech, mainstreaming encryption, and protecting privacy as a fundamental right.

- **Gaps in stakeholder insight in the technical coordination**

9. The core technical layer where interoperable solutions enable communication between any part of the Internet risks splitting into regional or isolated networks that no longer communicate with each other. While Internet standards organisations continue to develop and improve the Internet, there are national regulations whose impact goes beyond the national border to the global Internet.

10. It is important to explain the risks of fragmentation at the technical layer. Fragmentation at this level poses the greatest danger and would have the most severe impact. However, this is not always clear to others, and it may need to be articulated more effectively by the technical community.

11. Misalignment and the potential breakdown of coordination poses a real risk of Internet fragmentation. To prevent this, strong and inclusive coordination among all stakeholders is essential. Continuous technical and non-technical capacity building plays a key role in mitigating fragmentation. In this regard, the IGF, provides an important forum for capacity and trust building by bringing the Internet community together to discuss how the Internet

works, how sound technical deployments ensure that the Internet continuously evolves and avoid disruptions.

12. There might be a confusion of what governments and the technical community mean when they use the term 'Internet'. For governments, it is often focussed on content that reaches their population.

13. There is a growing disconnect between the concept of digital sovereignty and the original spirit of the internet itself. "Digital sovereignty" is often invoked by nations as a buzzword to frame their vision of the Internet and the ways in which they expect their citizens to use it. The term can be used as a by-word for something else, masking intentions that run counter to the open and collaborative foundations of the online world and the WSIS vision of a people-centred information society. This trend is troubling because it undermines the principle of a borderless internet, one that thrives on permissionless innovation and shared progress. The technical community has to find ways to convey the values of the technical community to governments: to help them understand why we work in this way, why openness matters, and how these principles have enabled the internet to flourish. Bridging this gap of understanding is essential if we are to protect the future of the global, open internet. The other stakeholders in the multistakeholder community need to help to amplify these values as a shared responsibility, otherwise it'll remain a single voice.

III. Overarching observations

- **Feedback on the PNIF Framework**

14. The PNIF could examine how states are reshaping the digital economy along geopolitical and geographical fault lines and assess how this affects global access to and diffusion of technology, including hardware, software, data, algorithms, model weights. The PNIF could broaden the notion of '*fragmentation of the user experience*' to include intermediary users of ICT goods and services and consider how they are impacted by a fragmentation of the global economy driven by government actions that reduce previously agreed openness of digital markets and value chains that produce and distribute ICT goods and services. Particular attention should be given to the implications for Global Majority countries and their access to ICT technology and investment.

15. The broad and diverse range of topics under the umbrella of fragmentation can be paralyzing. The PNIF can help by prioritizing which types of fragmentation to address in different work cycles.

16. The GDC highlights important risks, but it may now be time to consult the IGF community, for example through a questionnaire, about what it sees as main fragmentation risks (e.g., technical, commercial, censorship, etc.). This could then guide work cycles to focus on specific risks, potentially leading to more concrete outcomes.

- **The question of digital sovereignty**

17. As mentioned above, there is a growing disconnect between the concept of digital sovereignty and the concept of an interconnected and interoperable Internet and the WSIS vision of a people-centred information society. The term digital sovereignty can be used to frame or mask different visions of the Internet.

18. The association between digital sovereignty, isolationism, and fragmentation is not necessarily valid—one does not automatically lead to the other. The debate on digital sovereignty in Internet governance emerged after more than a decade of a liberal digital economy that globalized the internet, lowered ICT prices, and delivered many benefits. Yet it also produced negative effects: erosion of rights online, deepening inequalities, and growing concentration of wealth, while the promise of widespread prosperity went unfulfilled. In response, several countries began calling for greater autonomy to make their own policy trade-offs. Many of these demands are legitimate, even if framing them as "digital sovereignty" is debatable. What matters is that such calls, long ignored, deserve attention.

IV. The multistakeholder dialogue on Internet fragmentation …. *Cooperation among stakeholders to prevent, identify, and address risks of fragmentation.*

19. While much of the technical coordination happens unnoticed, there are visible examples such as: the Internet Coordination Policy Tool (ICP-2) (currently under review) governing the Regional Internet Registries (RIRs) and a key document to structure the core organisation of the Internet; or the Technical Community Coalition on Multistakeholderism (TCCM) gathering technical community organisations around core policy issues and discussions including the GDC process and WSIS review. This has contributed to building bridges between technical and non-technical realms and as such to avoiding fragmentation.

20. It is important to define fragmentation, as well as defining its opposite. 'If we don't want fragmentation, what do we want to see?' What is the Internet we want? In IGF terms, "internet openness" means interoperability, open standards, data flows, and open governance. But openness is not binary: without some level of openness the internet would collapse, yet degrees of openness can vary. The key question is how to preserve the Internet's capacity to function effectively and prevent fragmentation from reaching a point where its functionality severely diminishes. Regional internets may emerge not through

technical splits but through market fragmentation—something already visible, for example, in devices like mobile phones that cannot be fully updated or access key apps in some regions. To understand fragmentation, we must also consider how deeply value chains themselves are being divided.

21. The PNIF and IGF are well placed to convene a multistakeholder discussion responding to the significant migration of digital policy debates on data flows, algorithms, privacy, and AI into digital trade negotiations and agreements that are often non-transparent, unaccountable, and exclude multistakeholder participation. They can also serve as a forum to address fragmentation with companies from different digital sectors (similar to existing initiatives engaging businesses in discussions on responsible behaviour in cyberspace).

22. It is important to involve all stakeholders in shaping the digital future, addressing challenges through a common roadmap and stronger, more coordinated commitments, while working with neighbouring countries to pursue regional alignment through aligned digital strategies and legal frameworks. This can help avoid fragmentation.

23. The PNIF is in a great position to develop recommendations for GDC implementation with regard to fragmentation and should play a role in the GDC review.

- **Non exhaustive overview of multistakeholder initiatives addressing Internet fragmentation**
    - **Initiatives focussed explicitly on fragmentation**
        - …….
        - …….
        - ……
    - **Relevant initiatives focussing on related topics and coordination**
        - …….
        - …….
        - ……
    - **Capacity building initiatives**
        - …….
        - …….
        - ……

V. Recommendations

Links and Acknowledgements

PNIF webpage
PNIF main session at IGF2025 - discussion summary
