

IGF 2022

Policy Network on Internet Fragmentation (PNIF)

PNIF mailing list conversation - highlights

Note this an informal document paraphrasing the discussion on the PNIF mailing list starting 23 June 2022 (last update 14 July).

Definition and concepts - Internet fragmentation

Suggestion:

Feedback:

- ‘broad multi-dimensional definitions in order to capture a range of phenomena’ versus ‘more restrictive definitions under which some nominal examples might not ‘count’ as fragmentation’.¹
- There will be Day 0 session “Understanding Internet Fragmentation: Concepts and Their Implications for Action” on sorting through alternative definitions/understandings and their implications for action by states and stakeholders, building on the lessons of the 1998-2005 debates on the definition of IG and how alternative understandings channelled action. There should be some good synergy between what the group has in mind and the session, which in turn could filter into and aid the subsequent themed workshops etc. throughout the week.²
- the term fragmentation should be confined to technical incompatibility at layer 3 (narrow definition); however what most people refer to as fragmentation/splintering is really the alignment of services with national jurisdictions, which leads to barriers or differences in the way online services are offered.³
- Increasing the digital divide can be the result of fragmentation, even when defined on the narrow Layer 3 scope⁴
- Need to specify; ‘Fragmentation/splintering of X’, where X is something specific as: AS reachability in the full BGP table; the assignment of IP addresses; the root of the DNS; requirements on the handling of privacy data; proprietary protocols; allowed cryptography; liability regimes; &c; &c (ad infinitum?)⁵
- Fragmentation on WHAT, supplemented by an explanation of HOW⁶
- A survey will show what meanings people associate with fragmentation/splintering; but will unlikely arrive to a workable definition;⁷
- “Fragmentation/splintering of the coordination functions necessary to maintaining a global Internet” could encompass all the points, as well as any legal/regulatory moves that could jeopardise the functions that are necessary to global Internet coordination (the recent

¹William Drake, 28 June

²William Drake, 23 June

³Milton Mueller, 28 June

⁴Olaf Kolkman, 30 June

⁵Olaf Kolkman, 30 June

⁶Milton Mueller, 30 June

⁷Milton Mueller, 28 June

efforts to bring root server operators into scope of the EU regulation is the most immediate example to my mind, but obviously there are many others).⁸

- Invite authors who described internet fragmentation some years ago to comment on what has changed, and whether the world evolved in 'more of the same' or if a report today would highlight new developments.⁹ (e.g. WEF fragmentation paper (Drake, Cerf, Kleinwächter), 'Will Internet Fragment' (M. Mueller)).
- The answer on the question 'did anything change' will depend on how one define fragmentation¹⁰

Definition and concepts - are fragmentation and splintering the same ?

Suggestion:

Feedback:

- There exists chaos in definitions and saying they are the same avoids defining either. (e.g. some see VPN, digital divide, language differences, as fragmentation)¹¹
- In terms of differentiating between splinters and fragments, it is important to categorize the types of difference and perhaps even categorie. But I think that no matter what the underlying definition, the various types are worth looking at. If the PNIF is not an academic exercise, it is less important, to have agreed upon definitions than avoidance measures and possible treatments/cures.¹²

Mitigating internet fragmentation / splintering

Suggestion:

PNIF to discuss what is being done or can be done to seal or "route around" the splinters¹³

Feedback:

- need to identify specific incidents¹⁴ or map existing global network vulnerabilities¹⁵
- First agreement is needed on what is fragmentation¹⁶
- The words "seal" or "route around" suggest technical fixes, but if one understands "fragmentation" as a jurisdictional/political phenomenon the fixes are not technical.¹⁷
- "seal" or "route around" as applying to the political, jurisdictional, policy and sometimes technical aspects that limit other solutions. Fixes (or routes around and seals) as coming in all those areas, as well as in advocacy and any relevant other areas.¹⁸
- any of the solutions, short term or long term, will require a specific mix based on the reasons for the splinter. Sometimes the work around may be found in further policy or legislation, sometimes in court proceeding, sometime in advocacy, or maybe even tech. Sometimes it may require a combination of efforts. Sometimes it may hinge on the fact that all policy

⁸Chris Buckridge, 30 June

⁹Olaf Kolkman, 7 July

¹⁰William Drake, 8 July

¹¹Milton Muller, 28 June

¹²Avri Doria, 30 June

¹³Avri Doria, 25 June

¹⁴M. Mueller,

¹⁵Marielza Oliveira, 27 June

¹⁶William Drake, 28 June

¹⁷Milton Mueller, 8 July

¹⁸Avri Doria, 13 July

language is ambiguous based on diplomatic and cleverness that encapsulates disagreements and is used to achieve apparent consensus. Sometimes there is existing language in other instruments that can be used as glue or at least may provide a wedge that opens up a solution path.¹⁹

- There's not a technical answer to every splinter, nor should technical analysis be avoided as part of a possible solution path²⁰

Avoiding internet fragmentation / splintering

Suggestion:

Feedback:

- Technical, business and political factors need to be comprehensively addressed. It takes one world to preserve the Internet as one, and at the same time, it requires one Internet to bridge divisions in the world. It does not help when geographies promote total distrust in each other.

Technical: IETF to become more persuasive in furthering open Internet technologies and harmonisation of code. Political: what would it take for one geography to trust Internet technologies, vendors and equipment from other geographies?²¹

PNIF & GDC preparations

Suggestion: Need to feed in usable outcomes during this year into the GDC ²²

Feedback:

- PNIF to start from existing work²³

Reference docs & resources suggested

'Splinternets': Addressing the renewed debate on internet fragmentation', Clément Perarnaud, Julien Rossi and Francesca Musiani, Research Group on Internet Governance and Regulation (CIS GDR CNRS) [https://www.europarl.europa.eu/thinktank/en/document/EPRS_STU\(2022\)729530](https://www.europarl.europa.eu/thinktank/en/document/EPRS_STU(2022)729530)

Four Internets: The Geopolitics of Digital Governance, Kieron O'Hara and Wendy Hall, 2018 <https://www.cigionline.org/publications/four-internets-geopolitics-digital-governance/> (*"beyond the broad definition"*)

'Will the Internet Fragment', Milton Mueller, 2017 (*"narrow definition"*)

¹⁹Avri Doria, 13 July

²⁰Avri Doria, 13 July

²¹Sivasubramanian M, 27 June

²²Jorge Cancia, 23 June

²³Jorge Cancia, 23 June

'Internet Fragmentation: An Overview', WEF, William Drake, Vinton Cerf, Wolfgang Kleinwächter, 2016 ("*broad definition*")

https://www3.weforum.org/docs/WEF_FII_Internet_Fragmentation_An_Overview_2016.pdf

'China Introduces New Rules Governing Cross-Border Transfers of Data', Wall St. Journal 8 July , <https://www.wsj.com/articles/china-introduces-new-rules-governing-cross-border-transfers-of-data-11657271646>

-> China released new rules on cross border data flows (CBDF) and effective Sept. 1, parties dealing with data of one million people or more must undergo reviews before CBDF of personal data will be allowed, and similar reviews and green lighting are needed for parties who have been transferring personal data abroad of at least 100,000 people or sensitive personal information of 10,000 people or more from the beginning of the previous year. This will of course have the desired effect of leading to forced data localization on a very large scale and will impact differently across organizations in the commercial and noncommercial sectors, so it's not just, oh, Tesla... Of course, there are (perhaps uncomfortable) parallels with other countries/regions' policies on privacy and CBDF. (Bill Drake)

Is this an example of fragmentation, or not?