

Content Blocking & Filtering

Technology & end-user Perspectives

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What is it?

- Blocking access to content on the Internet
- Called as “blocking”, “filtering”, “censoring” etc depending on who is describing it
- Does not actually remove the content (as done in the case of content take-down, or GDPR's Erasure/ Right to be forgotten), only blocks access
- Numerous technological ways exist (DNS, IP, URL, text, DPI; blackholing, white/black listing)
- No universal standards exist (RFC7754 provides information)

Where is it done?

- An individual's computer
- Home
- School/College
- Office
- Geographical regions
- States/Provinces
- Whole countries

Why is it done?

- Personal reasons (own computer, home)
- Propriety (Schools)
- Productivity or protection (Office)
- Complying with judicial processes (province, country)
- Illegal content, pornography, hate speech, copyright (local/national)
- Religious/cultural norms
- On basis of publicly stated reasons (eg., Law & Order)
- Securing financial transactions, “National security”
- On the basis of unpublished orders to ISPs by Government

Why is it considered harmful?

- Runs counter to the design principles of the Internet
- There is no technical “feature” that can be turned on to block sites...nor an ‘evil bit’ (RFC3514)
- Technical solutions can affect the security and stability of the Internet on account of unintended side effects
- Can cause disproportional impact considering the offending content
- Causes unexpected behaviour & frustration, and reduces end-user trust in the Internet

End-user Perspectives

- End-users negatively impacted, and often without any recourse
- Legitimacy difficult to establish, no due process
- Personal rights and freedoms infringed
- In many cases, no transparency about reasons for blocking, nor accountability to democratic processes
- Sometimes these measures are an overkill (for instance blocking large swathes of IP ranges to block Telegram)

End-user Perspectives (2)

- There is a cultural impact, particularly on young people, as blocking presents an artificial view of the world
- May impact end-users from accessing legal content
- Subtracts from the stability and resiliency of the Internet

Overcoming blocking

- Most sustainable way would be for Governments to take up a consultative process with citizens
- Technological solutions exist, but may have implications:
 - Cost
 - Performance
 - Conflict with law enforcement
 - Needs installation of third-party software

Technology solutions/Hacks

- Run own DNS servers (or DNS over TLS/HTTP)
- Use VPNs
- Ssh tunneling (needs an external server)
- Anonymous proxies
- Browser extensions
- Google translate?
- Wayback machine (archive.org)
- Use an online PDF converters
- Non-DNS approaches
 - TOR: The Onion Router
 - Interplanetary File System (IPFS)

Conclusions

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- Content blocking is reality in many parts of the world
- As a concept, blocking goes against the spirit of the Internet. Practically it raises performance and Security/stability concerns, putting a burden on ISPs
- For end-users, there are various concerns from human rights to productivity
- A consultative process by Governments that takes citizens into confidence for policy setting may be a way to go forward

Thank You!