[**Saving the internet in Pakistan**](https://www.dawn.com/news/1695776/saving-the-internet-in-pakistan)

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IN an effort to censor “objectionable content”, the Pakistan Telecommu­ni­ca­­tion Authority (PTA) has initiated another onslaught on the fundamentals of the internet infrastructure in Pakistan by introducing a local centralised Domain Name System and attempting to block global DNS. If fully implemented, this will significantly slow down internet speed in Pakistan, increase the cost of internet services, undermine privacy and effectively stunt Pakistan’s IT sector expansion and advancement in technology and associated services.

Under the paternalistic garb of protecting Pakistani citizens from ‘objectionable content’ on the internet, the PTA has gone too far and is set to fracture the fundamentals of how the internet was envisaged to function.

There are multiple ways of blocking content on the internet. Several have been employed previously by the PTA in Pakistan. In 2006, it blocked the entire blog-hosting website Blogspot among 12 websites for two months because a blog by some insignificant person somewhere in the world was deemed blasphemous. In 2008, the blocking of YouTube by the PTA made the channel inaccessible in several parts of the world for two hours. In 2010, several websites including Facebook, YouTube and Wikipedia were blocked at the Internet Service Provider level, whereby ISPs were sent lists of websites to be blocked.

In March 2012, the government requested tenders for a URL filtration system, and the Canadian company Netsweeper won the bid, despite efforts by Bolo Bhi to write to them explaining that bidding for such equipment would undermine human rights in Pakistan. The filtering system changed the blocking from ISP-level to centralised blocking at the national Internet Protocol level. This would also empower the PTA to block individual IPs, which is the method or protocol under which data is sent from one computer to another on the internet.

The PTA is set to fracture the fundamentals of how the internet was supposed to function.

While these websites were blocked in the name of blocking pornographic and blasphemous content, access to several political and news websites was also obstructed, especially those critical of state policies. Rolling Stone among others remained blocked for long, and many Indian news websites continue to be inaccessible here. In a move that the Islamabad High Court ruled against, the PTA even blocked the Awami Workers Party’s website before the 2018 election without any explanation.

In 2018, it was revealed that the PTA was taking censorship and surveillance one step further by setting up a Web Monitoring System for $18.5 million purchased from the Canadian firm Sandvine that sells Deep Packet Inspection technology. This would enable the PTA to block content and carry out surveillance at internet gateways — two of which exist in Pakistan — as internet traffic enters and leaves Pakistan. It was done to monitor grey traffic of illegal Voice-over-Internet protocol usage by call centres and businesses, but the PTA is on record at the Islamabad High Court as saying that the WMS will be used to carry out mass surveillance over social media activity by activists.

The latest move involves the PTA setting up a central DNS. In simple terms, DNS is the phonebook of the internet. When we enter a website or application name to access it, we are quickly reverted to the IP address of that particular website or application because it is stored on the DNS. Effectively, DNS serves to translate the domain names to IP addresses so that our browsers can read the desired page or application. The PTA is doing this to be able to exercise control over censoring the internet in Pakistan through a centralised system.

The PTA now also wants to block global DNS. This is a major point of contention with ISPs in Pakistan. ISPs currently do not force customers to use their DNS or global DNS. This is a global practice. Blocking global DNS will have a terrible impact on how Pakistanis use the internet. It will impact Content Distribution Networks (CDNs) that bring internet content to customers by geo-caching them, meaning that they are preloaded on servers geographically close to customers which enables fast loading and browsing.

There are five major CDNs that are functioning in Pakistan currently: Akamai, YouTube, Netflix, Facebook and Cloudflare. Their systems are integrated with global DNS, and blocking the latter will have a detrimental impact on their CDNs which serve around 65pc of Pakistan’s total internet traffic. Blocking global DNS and hence CDNs will mean that all internet bandwidth in Pakistan will have to come via underground submarine cables, which will exponentially increase the cost of internet by three to four times. The cost is already rising since it is paid in dollars and the exchange rate is crashing. Internet speed will further slow down because of this. Several applications, including large business clients, such as Cisco, use global DNS and their functionality will be impacted too if they are blocked.

A centralised DNS and blocked global DNS will also undermine the privacy of internet users in Pakistan as a local DNS will be vulnerable to state surveillance, increased security threats by hackers etc, loss of access to DNS block lists that protect users from malware and viruses and the potential for abuse of DNS data for commercial purposes among several issues.

The world meanwhile is moving towards Web 3.0 which is defined by decentralised blockchain technology rather than the centralised model of the earlier two iterations. The concept of decentralised autonomous organisation is defining the future of internet technology, but Pakistani authorities seem to be going in the past in their obsession with control rather than allowing citizens to accrue benefits of faster, more private and lower-cost decentralised internet. The PTA must scrap the proposal for blocking global DNS, and move towards decentralised DNS so that Pakistan’s IT sector can grow, exports can rise and Pakistanis can compete globally.

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