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COUNTER COMMENTS TO THE TRAI CONSULTATION PAPER ON THE TERMS AND CONDITIONS OF NETWORK AUTHORISATIONS TO BE GRANTED UNDER THE TELECOMMUNICATIONS ACT, 2023

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Dear Sir,

We appreciate the Telecom Regulatory Authority of India (TRAI) for publishing comments on the Consultation Paper on 'The Terms and Conditions of Network Authorisations to be Granted Under the Telecommunications Act, 2023' and offering an opportunity to submit counter-comments. Please see our counter-comments below. Specifically, we respond to stakeholder views on the need to regulate Content Delivery Networks (CDN).

1. **Stakeholders are not in favour of an authorisation/registration mechanism for CDN as a telecom network under the Telecommunications Act, 2023.**

Stakeholder comments show that they are not in favour of a network authorisation regime for CDNs. The few stakeholders in favour of a regulatory framework have also advocated against any intervention in commercial arrangements.

POSITION ON CDN REGULATION	
Regulate CDN-ISP agreements	0
Regulate CDNs	5
Do not regulate CDNs	8
CDNs not a part of network layer	2
No comment on the need to regulate CDNs	18

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2. There is no need to regulate CDNs under the Telecommunications Act, 2023, as we have stated in our comments.

- CDNs are auxiliary caching services that accelerate the delivery of content, and they are different from telecom networks.
- There is no evidence of market failure or harms and the present regulatory treatment of CDNs works well for the market.
- The proposed framework under the 2022 Recommendations will throttle innovation and growth.
- Agreements between CDNs and access service providers are confidential business-to-business arrangements and there is no stated benefit in seeking the disclosure of these agreements.

3. Our specific counter comments to stakeholder comments on CDN regulation.

The following table outlines key arguments made by stakeholders who favour CDN regulation and our counter comments.

No.	Stakeholder comments	Counter comments	Recommendation
1	**CDN registration:** Some stakeholders have advocated for a light-touch regulatory framework for CDNs.	There is no need to regulate CDNs as a telecommunication network for the following reasons: **CDNs are not telecommunication networks** CDNs are not telecommunication networks. They are auxiliary services that help to add efficiency to telecom networks. They enhance the overall efficiency of access service providers like ISPs and TSPs and contribute to a seamless user experience. They reduce the geographic distance that data packets travel and the number of network hops that they make. Most CDN services have direct interconnection points with last-mile networks which lead to higher traffic quality during content transmission. **Regulating CDNs as a telecommunication network deviates from the practice in other countries** The FCC has a similar position. The US communications regulator distinguishes CDNs, hosting and data storage services from 'mass market' services because they do not have the ability to transmit data to and receive data from all internet endpoints.[1] The European Union's Body of European Regulators for Electronics Communications (BEREC) also categorises interconnection services like	**Trai should exclude CDNs from its recommendations as it is not a telecom network that requires authorisation under Section 3 of the Telecommunications Act.**

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[1] Restoring Internet Freedom Order, Federal Communications Commission, 2018, available at: https://www.fcc.gov/document/fcc-releases-restoring-internet-freedom-order

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		CDNs differently from internet access services.[2] The regulator adopts distinct regulatory treatment for different players like access networks, IP transit services or digital infrastructure like CDNs which contribute to the internet ecosystem. Communication regulation regimes in Norway, Australia, United Kingdom and South Korea also exclude CDNs from licensing and authorization regimes that apply to access service providers for this reason.	
2	**CDNs should be subject to minimum operational and security-related standards** Inclusion of mandatory encryption standards and quarterly security audits, especially for CDNs handling sensitive data would be desirable. Minimum redundancy and disaster recovery requirements for CDN PoPs in critical sectors.	There is no clear evidence to suggest the need for any standardisation for CDNs. **<u>An intervention without evidence of harms or market failure will throttle organic market growth</u>** The present CP and Trai's 2022 recommendations do not highlight a market failure that standards will rectify. Any mandatory standardisation will have a disproportionate impact on smaller players, act as an entry barrier, and throttle the growing market. The Federal Communications Commission (FCC) has repeatedly recorded in their Open Internet Orders that transposing access service provider regulations to other services can dissuade new entrants from innovating on new methods to reach consumers and hinder organic market-led	**There is no need for any mandatory standards for CDNs. Market forces drive them to innovate and offer competitive QoS and cybersecurity standards.**

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[2] BEREC, "What is covered and protected by the regulation", *available at:* https://www.berec.europa.eu/en/what-is-covered-and-protected-by-the-regulation.

No.	Stakeholder comments	Counter comments	Recommendation
		formulation of strategies that are pro-consumer and pro-competition.[3] Regulatory intervention from the DoT would hinder India's ambitions of achieving the policy target of USD 1 trillion digital economy[4]. It also contradicts the G20's Digital Ministers Declaration which called for policy frameworks that foster investments in data infrastructure and architecture that have positive spillovers across industries and society.[5] **Mandatory standards may be counter-productive to achieve better QoS and cybersecurity resilience.** Mandatory standards will increase operational expenses and disincentivise innovation because operators will have to bear compliance costs. It will diminish their agility in responding to technological developments and consumer demands. CDN technologies is on a trajectory of constant innovation and growth. In India, providers match devices with the content they prefer to access and deliver optimised versions of webpages and media, specifically tailored for mobile viewing.[6] CDNs have innovated and developed the	

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[3] In the Matter of Preserving the Open Internet Broadband Industry Practices, Before the Federal Communications Commission, 2010 (and later in 2018), available at: https://docs.fcc.gov/public/attachments/FCC-10-201A1_Rcd.pdf

[4] Press Information Bureau, Ministry of Electronics and IT, 'Sh. Ravi Shankar Prasad Meets the Industry Leaders to Develop a Roadmap for US$1 Trillion Digital Economy'; available at http://pib.nic.in/newsite/PrintRelease.aspx?relid=165697

[5] Declaration of G20 Digital Ministers, Leveraging Digitalisation for a Resilient, Strong, Sustainable and Inclusive Recovery (2021), available at: https://assets.innovazione.gov.it/1628084642-declaration-of-g20-digital-ministers-2021final.pdf

[6] https://www.coherentmarketinsights.com/market-insight/india-content-delivery-network-market-3151.

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		infrastructure to offer advanced services like adaptive bitrate streaming. Indian CDNs adopt multi-cloud and hybrid cloud strategies, to align their services with various cloud platforms and facilitate seamless integration. An industry-friendly policy affords CDNs the ability to improve their solutions and respond to demand in an agile manner. They also innovate to improve their resilience to cybersecurity threats. They integrate robust security features into their offerings like web application firewalls, realtime threat monitoring, and distributed denial of service protection, to address concerns around data privacy and security.[7] **CDNs already follow standards based on legal requirements under other laws** Institutions like the Bureau of Indian Standards (BIS) and the Telecommunications Engineering Centre (TEC) oversee testing and standardisation of all CDN equipment. Export controls and Foreign Direct Investment (FDI) norms apply, and businesses must register as per applicable company and taxation laws. They must also follow extant regulations on data security and cybersecurity under the Information Technology Act, CERT-In Guidelines, and the Digital Personal Data Protection Act. Consumer protection laws, competition laws, and general laws also apply. These	

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[7]"Europe Content Delivery Network Market," TechSci Research, accessed on August 16, 2024, https://www.techsciresearch.com/report/europe-content-deliverynetwork-market/3525.html.

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		frameworks provide adequate checks and balances to address any potential harm the regulator and stakeholders expect.	
3	**Mandate CDNs to set up their infrastructure in tier-2 and tier-3 cities**	**CDN services respond to market demand, and some operators focus on expansion into tier-2 and tier-3 cities. A one-size-fits-all approach to all CDNs will diminish the unique connectivity demands they respond to.** The ability to adapt to market conditions is essential to cater to diverse content delivery requirements.[8] As the same CDNs cater to different kinds of network capacity demands from video streaming, e-commerce, e-learning or online gaming, they must have flexibility. Customisable architecture enables them to adapt to different levels of traffic and demand, depending on the kind of content they are delivering. Several companies like Cloudflare, AWS, Akamai, Google, Fastly, CDNetworks, CDNVideo, and Tata Communications offer CDN services in India, and many of them have decades of experience. CDN prices decreased by 300% between 2017 and 2020[9], which is indicative of a competitive environment. The presence of multiple players leads to an ecosystem where providers decrease prices and offer competitive plans to improve their market share. It is also a diverse market, and different players have unique CDN use-cases. Telcos partner with CDN providers to reduce latency and decongest their networks, online	**There is no need for any mandatory to operate in specific service areas. Market forces drive CDNs to innovate and respond to unique connectivity demands.**

[8]"The Importance of Flexibility and Scalability in CDNs," CacheFly, *available at:* https://www.cachefly.com/news/the-importance-of-flexibility-andscalability-in-cdns/.

[9] Dan Rayburn, "CDN/Media Pricing See's Big Drop for Largest Customers: Pricing Down to $0.0006," StreamingMediaBlog.Com, May 11, 2020, available at: https://www.streamingmediablog.com/2020/05/q1-cdn-pricing.html.

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		streaming companies have CDN solutions to optimise content delivery, and smaller operators like picoNETS work to drive adoption in underserved areas. **Trai and the government should focus on ease of doing measures and incentivise data centres** Instead of casting a burden on CDNs to enhance their penetration, TRAI and the government must focus on enhancing ease of doing business and creating market friendly policies for them. CDNs already work with all ISPs irrespective of their geography to provide quality experience to consumers. However, as highlighted in the regulator's 2022 recommendations[10] data centres in India has focus on Tier-I cities such as Mumbai, Delhi-NCR, Bengaluru and Chennai because of of robust connectivity, uninterrupted power supply, and excellent local market access. Instead of mandating CDN providers to set up infrastructure in Tier-2 and Tier-3 cities, it is important to incentivise data centre providers to expand. Improving the data centre infrastructure in Tier 2 and Tier 3 cities will ensure a favourable ecosystem for CDN networks to expand.	

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[10] Trai Recommendations on a Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India, pg. 28

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4	**Regulate CDNs under the Information Technology Act, 2000**	The Ministry of Electronics and Information Technology (MeitY) is the nodal ministry to administer the Information Technology Act, 2000.	**The present CP does not deal with this comment. In any case, MeitY is the nodal ministry in charge of administering the IT Act.**
5	**Issue blocking orders to CDNs in case of content takedowns.**	Mechanisms to take content down already exist under the IT Act, and as mentioned above MeitY is the nodal ministry in charge. There is no evidence that indicates there are issues with the current model.	**The present CP does not deal with this comment.** **In any case, MeitY is the nodal ministry in charge of administering the IT Act which includes takedown provisions.**