

Consultation Paper  
on  
Regulatory Framework for Promoting Data Economy  
Through Establishment of Data Centres, Content  
Delivery Networks, and Interconnect Exchanges in India

**Response from NetPico Labs Pvt. Ltd. (picoNETS)**

**Date of response: February 10, 2022**

**Q.28: What long term policy measures are required to facilitate growth of CDN industry in India?**

The growth of the CDN industry is heavily dependent on the upstream(Content providers) and downstream(Transit and Last-mile Internet Providers). Ensuring a healthy growth environment for the upstream & downstream industries will automatically promote the growth of the CDN industry.

**Q.29: Whether the absence of a regulatory framework for CDNs is affecting the growth of CDN in India and creating a non-level-playing field between CDN players and telecom service providers?**

picoNETS is of the opinion that the regulatory framework for CDN would be detrimental to growth of this domain/industry. Any regulatory framework is best suited for industry where all players in that industry are at a certain level of size & maturity. Barring a few Major CDN providers there are a lot of small / startup CDN companies in this space (picoNETS is one such example). These small CDN providers are looking to expand CDN services into locations where the big players have traditionally not been able to provide their services or have a very poor service network. In addition, players like picoNETS are working to drive CDN adoption into much deeper points within the Last-Mile networks, and work with a large number of small and medium ISP partners. These SME type ISP partners would also be negatively impacted by any regulatory burden that gets added on to them as a consequence of getting involved with CDN partners. The smaller ISP's look to have cost effective & quick implementations of the CDN's to provide best performance & save on bandwidth / transit costs. If the CDN providers are straddled with complying with regulations they would not be in position to provide cost effective services / products quickly to these ISP.

Therefore, in our opinion, implementation of regulatory frameworks will not be cost effective for smaller CDN providers & would also contribute to delayed service delivery timelines and significant risk of restricting the CDN market to the big players or telco's only.

**Q.30: If answer to either of the above question is yes, is there a need to regulate the CDN industry? What type of Governance structure should be prescribed? Do elucidate your views with justification.**

picoNETS is of the opinion that currently there is no need to regulate the CDN industry & hence does not propose any registration/licensing framework

**Q.31: In case a registration/licensing framework is to be prescribed, what should be the terms and conditions for such framework?**

picoNETS is of the opinion that currently there is no need to regulate the CDN industry & hence does not propose any registration/licensing framework

**Q.32: What are the challenges in terms of cost for growth of CDN? What are the suggestions for offsetting such costs to CDN providers?**

CDN networks in India are patchy, many tier 2-3 users are getting served from CDN edge nodes in tier 1 cities. India needs to encourage more CDN deployments and should make it easier for CDNs to import servers and deploy them.

CDNs also currently have to pay very high bandwidth charges to telcos. Even if the CDN is saving bandwidth for the telcos, the Telcos don't treat CDNs differently than other customers who are purely consuming bandwidth. CDNs consume limited ingress bandwidth (cache fill) and significantly larger egress bandwidth (cache out).

Ingress bandwidth is what the CDN servers/nodes consume and egress bandwidth is what the CDN servers/nodes are actually saving for the telcos.

The egress bandwidth is within the telco networks. However many telcos are charging CDNs for both Ingress and egress bandwidth equally.

Hence telcos need to be incentivised to charge CDNs only/primarily for the ingress bandwidth (cache fill).

## Hardware certification cost for CDN

Since CDNs import special-purpose servers which are not sold to any third party, these shouldn't require BIS/etc which adds to the complexity, costs, and time taken. The BIS costs become high if the number of units deployed of the same SKU is low. This especially affects startups and specialty CDNs that are targeting focused regional / rural rollouts.

As a CDN picoNETS is encouraging making in India wants to source in India. However, some of the barebone motherboards imported also require BIS certifications.

If the hardware already has Certification for the device/component from internationally recognised certification agencies like the FCC(US), ISED(Canada), CE Mark(EU), MIC(Japan), ANATEL(Brazil) and other similar bodies worldwide, It could be allowed for import by captive users like CDNs where there is no commercial forward sale of the equipment involved.

Q.33: Do you think CDN growth is impacted due to location constraints? What are the relevant measures required to be taken to mitigate these constraints and facilitate expansion of ecosystem of Digital communication infrastructure and services comprising various stakeholders, including CDN service providers, Data Centre operators, and Interconnect Exchange providers expansion in various Tier-2 cities?

CDN growth is not constrained by location, rather it is constrained due to connectivity issues in non-metro, rural locations. Improving the connectivity, bandwidth to ISP's in these locations will automatically increase the demand for CDN's and thereby contribute to the growth of the CDN industry

Q.34: What measures can be taken for improving infrastructure for connectivity between CDNs and ISPs, especially those operating on a regional basis?

Ensure that there are no barriers for small regional ISP's to bring CDN services into their infrastructure, from a licencing or regulatory perspective.

Q.35: Is there a need to incentivize the CDN industry to redirect private investments into the sector? What incentives are suggested to promote the development of the CDN industry in India?

We do not have any specific suggestions here, but may have more to say basis other participant's comments on this question.

Q.36: How can TSPs/ISPs be incentivized to provide CDN services? Please elucidate your views

TSPs/ISPs as such shouldn't need additional incentives. The performance and efficiency benefits & cost savings derived from implementation of CDN is a major factor in adopting and deploying a CDN. Some changes in the regulatory policies for Tower operator companies might help in better implementation of cost effective CDN's / VCDN's.

Specifically, some of the 5G specific regulations that allow for significant consolidation and rationalization of hardware assets via virtualization by a 3rd party service provider (like a tower owner/operator company) can be extended to all forms of networks, including 4G networks so that they can start providing shared services like edge vCDN without the telcos resorting to walled silos.

The Esteemed TRAI panel could also make a study of various measures adopted in other international markets in order to promote infrastructure sharing across 5G Operators, for example the DNB Initiative being undertaken in Malaysia, to promote infrastructure reuse, including vCDN services across multiple 5G Operators

Q.37: Are there any other issues that are hampering the development of CDN Industry in India? If there are suggestions for the growth of CDNs in India, the same may be brought out with complete details.

N/A