Nasscom's Feedback on Telecom Regulatory Authority of India Consultation Paper on The Terms and Conditions of Network Authorisations to be Granted Under the Telecommunications Act, 2023

November 19, 2024

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SUMMARY OF RECOMMENDATIONS

1. Content delivery networks (CDNs)

- **CDNs should not be brought under any kind of authorisation/registration regime.**
- **This would align India with the global position where several nations like, Australia, South Korea, Norway, U.S. and European Union does not regulate CDNs with a view to spur investment, innovation, and competition.**

2. Internet exchange points (IXPs)

- **IXPs should not be brought under any kind of authorisation regime.**
- **They are set up to merely facilitate the flow of traffic without any connect with end user.**
- **This would align India with the global position where jurisdictions including the U.S., U.K., Hong Kong, South Africa, Singapore, Japan, Brazil, etc. have not imposed regulatory/licensing requirements upon IXPs.**

3. Captive Use Authorisation

- **Permit Captive Use Authorisation under the Telecommunications Act 2023 enabling Indian enterprises to own, establish and manage Private Enterprise Networks (subsea or terrestrial fibers) for exclusive internal use of the enterprise, and which do not interface with end users.**
- **Since this authorisation will not have spectrum allocation and will be only for captive use (i.e., not connected to the public network), various related regulatory obligations may not be required/applicable under this authorisation.**

Nasscom welcomes the opportunity to submit our response to the Consultation Paper on "*The Terms and Conditions of Network Authorisations to be Granted Under the Telecommunications Act, 2023*" (**Consultation Paper/Paper/CP**) released by TRAI in July 2024[i].

OVERALL OBSERVATIONS

The Telecommunication Act, 2023 provides that while making rules with respect to authorisation, the government shall provide for different terms and conditions of authorisation. We believe that this provision would be guided by the principle of activity-led and risk-based approach of regulation as we have seen in the recommendations of TRAI on the Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023. [ii] This approach —focuses on use cases rather than technologies themselves — can help balance benefits and risks while avoiding unintended consequences of heavy-handed interventions. Nasscom has consistently held this position in its representations, including the Telecommunications Bill (public consultation) and TRAI's CPs with respect to the Telecommunications Act, 2023.[iii]

This approach assumes more importance, given the evolving technological landscape, especially in the domain of digital communications and growing demand for uninterrupted and low latency data connectivity to spur India's data centre ecosystem. Rising consumer demands for 'feature enhancement' and 'real-time service delivery' have now necessitated leading-edge network architecture and quality, uninterrupted availability (to boost AI data centre ecosystem), control and scalability of networks of these digital enterprises for delivering uniform and world-class digital services to consumers worldwide.

However, some of our path dependencies emerging from the regulation of traditional licensed telecom service providers (**TSPs**) continue to exist. For instance, TSPs have been providing and managing networks for digital enterprises. Existing unified licensed framework (now being revamped by the Government of India in light of the 2023 Act) prevents non-licensed digital enterprises from owning or managing private enterprise networks. Further, the current unified license requires such TSPs to comply with various technical and security conditions and limitations meant for public networks. This is generally argued to indicate that all license conditions apply to TSPs equally for public as well as private networks, although several technical, security and other conditions in the license may not be *commensurate* with the 'captive, non-public' nature of private enterprise networks.

We recommend that, to cater to the changing technological landscape, India needs a nuanced approach (i.e., activity-led and risk-based) rather than the rigid framework applied to legacy telecommunications. Therefore, we believe that on CDNs and IXPs should not be regulated (i.e., no authorisation/registration). Also, digital enterprises should be permitted to use private network for captive consumption through a light-touch authorisation.

SPECIFIC RECOMMENDATIONS TO THE ISSUES FOR CONSULTATION

Q5. Whether there is a need to make any changes in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the Content Delivery Network (CDN) authorisation, as recommended by TRAI on 18.11.2022? If yes, what changes should be made in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the CDN authorisation? Kindly provide a detailed response with justification.

The importance of CDNs has been well established through the market data available together with data centres and IXPs. They are extremely vital for growth of India's digital infrastructure and to promote connectivity across all regions in India. India's CDN market will witness a growth of over 700 percent during the period 2018 – 2027 (from USD 435.2 million in the year 2018 to USD 2846.8 million by 2027).[iv]

TRAI in its CP on 'Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India' had recognised that CDN is one of the components of internet that brings content closer to the user to provide better quality of experience. TRAI recognised that India's CDN market will witness a growth of over 700% between 2018-2027 (i.e. USD 435.2 mn in 2018 to USD 2846.8 mn in 2027).

CDNs perform an important function in delivery of traffic on the Internet. They add efficiency to the network by reducing latency, mitigating congestion and freeing up network capacity for various other purposes. In doing so, CDNs serve to benefit not just the faster delivery of content housed on these networks but also other content that can travel faster due to freeing up of network capacity.

At their core, CDNs (Edge CDNs and Virtual CDNs) provide software and servers for computing and storage. Depending on whether CDN providers build their own connectivity or not, most CDNs are either a customer of licensed TSPs/ISPs, or operators of a private network interconnecting with licensed TSPs/ISPs, through transit and peering arrangements. **For the sake of abundant clarity, it is therefore worth stating that the CDNs are not telecommunications operators and should not be regulated as such**.

TRAI had earlier noted that most leading jurisdictions, such as **Australia, South Korea,** and **Norway**, do not require CDNs to obtain licenses to operate.[v] The **U.S.** also does not regulate CDNs with a view

to spur investment, innovation, and competition and to increases transparency to protect consumers. [vi] In the **European Union**, the interconnection services provided by the CDN companies and large content providers (e.g., YouTube, Netflix), who operate their own CDNs are excluded from the scope of the Regulation. [vii] Given that any licensing requirements are likely to raise entry barriers and impact the competitiveness of the CDN market in India, we urge the TRAI to refrain from recommending licensing requirements for CDNs at this stage.

CDNs should not be regulated in a manner that disrupts content delivery services aimed to improve the quality of services provided to consumers and reduce costs of content delivery that is provided in collaboration with content providers and TSPs/ISPs.

Moreover, such practices are likely to be counterintuitive for the CDNs, since the relationship between ISPs and CDNs is that of a "mutual facilitator" but based on a case-by-case cost share rather than a revenue share model.

However, in its recommendations on 'Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India', TRAI had recommended registration for CDNs along with certain regulatory obligations. Since the same was not accepted by DoT, we request TRAI to reconsider its earlier recommendations as part of this CP.

Recommendations

- **CDNs should not be brought under any kind of licensing/ authorisation/ registration regime.**
- **This would align India with the global position where in several nations, CDNs are excluded from the scope of regulation to spur investment, innovation, and competition.**

Q6. Whether there is a need to make any changes in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the Internet Exchange Point (IXP) authorisation, as recommended by TRAI on 18.11.2022? If yes, what changes should be made in the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of the IXP authorisation? Kindly provide a detailed response with justification.

IXPs provide an essential component of the infrastructure underlying the digital economy. India has secured 2nd position in Asia in 2023 for the most Internet Exchange Points (IXPs) per country, as revealed by the Internet Society Pulse Country Report. This marks a significant milestone in India's commitment to adopting advanced technologies and addressing the challenges of a connected world. As per the report, India's ascent in IXP deployment in Asia positions the nation at the forefront of Internet innovation and connectivity. As of December 2023, 40 IXPs have been established by several organisations across India connecting nearly 900 Internet networks.

In a 2012 study on the impact of IXPs in Kenya and Nigeria for the Internet Society, consultancy Analysys Mason noted that "Overall, the IXPs have had the direct effect of lowering the operating costs for local internet service providers (ISPs), while increasing the traffic, and where relevant corresponding revenues, of ISPs, with further benefits for those sectors that have incorporated the IXP in their delivery of services".

The market for IXPs is characterised by negligible barriers to entry. Capital investments and technology required for establishing an IXP business are low, since in their simplest form, IXPs provide a simple layer-2 network switch.

IXPs have flourished in the absence of regulation, due to the nature of their business models, and the tremendous efficiencies brought forth by their services. As such IXPs do not undertake the provision of any licensed telecommunications service and should therefore not be regulated.

TRAI in its Consultation Paper on 'Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India' noted that **no jurisdiction till date, including US, UK, Hong Kong, South Africa, Singapore, Japan, Brazil, etc. has imposed regulatory/licensing requirements upon IXPs**.

Therefore, and in the absence of any evidenced market failures, the government should refrain from imposing regulatory or licensing obligation on IXPs or other entities providing peering services in IXPs (including licensed TSP/ISPs), since the core activity of such entities extends to merely providing traffic interchange points.

ISPs that are members of IXPs are already regulated under licences that include stringent national security obligations. Moreover, as traffic passing through the IXPs is encrypted, there is no risk of unauthorised access to the data, ensuring data privacy and sovereignty. As compared to ISPs, IXPs do not provide bandwidth, internet services, or IP transit services. The functions of IXPs are grossly distinct from those of ISPs and hence cannot be covered under any authorisation.

However, in its recommendations on 'Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India', TRAI had recommended UL (VNO) for IXPs. Given the same has not been accepted by DoT, TRAI needs to rethink its earlier recommendations.

Recommendations

- **IXPs should not be brought under any kind of licensing/authorisation regime.**
- **They are set up to merely facilitate the flow of traffic without any connect with end user.**

Q17. Whether there is a need to introduce certain new authorisations (other than the authorisations discussed above) to establish, operate, maintain or expand telecommunication networks under Section 3(1)(b) of the Telecommunications Act, 2023? If yes, -
(a) For which type of telecommunication networks, new authorisations should be introduced?
(b) What should be the eligibility conditions, area of operation, validity period of authorisation, scope, and terms & conditions (general, technical, operational, security etc.) of such authorisations? Kindly provide a detailed response with justifications.

Digital services are now widespread across the globe. The increasing integration of digital applications and technologies has ushered in a transformative era for digital services. This evolution has not only brought about more sophisticated service delivery models, but it has also escalated computational demands. As a result, multinational digital service providers are increasingly depending on interconnected backend systems, including DCs and points of presence across various regions, including India, to manage backend processing and deliver essential application features.

For seamless operational control, many global enterprises now own and operate captive, non-public networks (submarine or terrestrial fibers) for exclusive use by the enterprise and which do not interface with end users.

To promote EODB, making India a digital hub, TRAI may propose a separate 'light-touch' framework (**Captive Use Authorisation under the Telecommunications Act 2023**) allowing Indian enterprises to own, establish and manage Private Enterprise Networks (subsea or terrestrial fibers) to interconnect various entities globally for their captive use. This will significantly enhance the backend

DC business in India and align with the approach taken in other major markets and provide clarity and flexibility to Indian Enterprises.

Implementing flexible and enabling policies will also processes and create a more predictable and business-friendly environment for the industry to grow. The relaxations (and associated cost savings from not having to acquire these services from traditional TSPs at a premium) will also significantly enable Indian enterprises to have more reliable backend connectivity, invest in research and development and innovate new technologies, thus ultimately benefitting end users.

Regulators in major economies such as Singapore, Japan, the United States, and the European Union have recognised the significant potential for industry growth and investment. TRAI in its CP on Licensing Framework and Regulatory Mechanism for Submarine Cable Landing in India has already cited some of these examples. Their open regulatory approaches, which include exemptions or relaxed regulations for global enterprises establishing and managing Private Enterprise Networks solely for internal use (not for public end users), have turned these regions into global digital hubs. Singapore exemplifies a flexible regulatory environment that has attracted subsea cable investments. It offers a private use licensing exemption for entities not seeking to operate their infrastructure as TSPs but for their own exclusive use.

Recommendations

- **Permit Captive Use Authorisation under the Telecommunications Act 2023 enabling Indian Enterprises to own, establish and manage Private Enterprise Networks (subsea or terrestrial fibers) for exclusive use by the enterprise and which do not interface with end users.**
- **Since there will be no spectrum allocation under this authorisation and will be only for captive use (*not connected to the public network*), various related regulatory obligations, including Quality of Service, Subscriber Verification, Rollout, etc. may not be required/applicable under this authorisation.**

Q26. Whether there is a need to change/ modify any of the financial conditions of the IXP and CDN authorisations from those recommended by TRAI on 18.11.2022? If yes, please provide a detailed response with justification(s).

Please refer to our responses to **Q5** and **Q6** above. We believe that both CDNs as well as IXPs are functioning well within the current eco-system and any onerous regulatory obligation will only disrupt the system. The relationship between ISPs with CDNs or IXPs is of mutual benefit and there is a well-established system to ensure that both function in their own domain. Hence, no financial burden should be imposed on either CDNs or IXPs.

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About nasscom

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[i] See, Telecom Regulatory Authority of India, '*The Terms and Conditions of Network Authorisations to be Granted Under the Telecommunications Act, 2023*' (October 2024).
[ii] See TRAI recommendations on the Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023 (September 2024)
[iii] See nasscom response to draft Telecommunications Bill

[iv] *See TRAI CP on 'Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India', para 3.26*

[v] *See TRAI CP on 'Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India', Paras 3.27 to 3.31*

[vi] *See FCC Restoring Internet Freedom Order*

[vii] *See BEREC Regulation*