

To,
Dr. Pemmasani Chandra Sekhar,
Minister of State in the Ministry of Communications,
Government of India,
1st Floor, Sanchar Bhawan, 20, Ashoka Road,
New Delhi - 110001

Subject: Response to Parliamentary Q&A No. 4250: Clarification on the definition of Internet Exchange Points (IXPs)

Dear Sir,

We write to bring to your attention a factual inaccuracy in the response provided to [Unstarred Question No. 4250](#) in the Lok Sabha on 26th March 2025, regarding the definition and role of Internet Exchange Points (IXPs).

While we appreciate the government's engagement on this critical infrastructure issue, your statement that **"IXP effectively offers Internet service to the end user indirectly through the serving ISPs" is incorrect and risks perpetuating regulatory overreach that could harm India's digital ecosystem.** We would like to provide our clarification as below:

❖ **What is an IXP? The Correct Definition**

As per the International Telecommunication Union (ITU), an IXP is:

"A single physical network infrastructure operated by a single entity with the purpose to facilitate the exchange of Internet traffic. It acts as a centralized hub enabling local traffic to be routed locally and save international bandwidth, which has the effect of reducing the overall costs of international Internet connectivity." Simply put, IXPs are middle mile infrastructure. They are physical locations that merely [enable peering](#) - the direct interconnection between networks (ISPs, content providers, cloud platforms) to exchange traffic without routing through third-party networks. This:

- Reduces latency by keeping local traffic local
- Lowers bandwidth costs by minimizing international transit
- Improves reliability through direct connections

Evidently, IXPs differ from ISPs in that, IXPs **do not provide internet services to end-users**; instead, they offer physical infrastructure that allows networks to interconnect and exchange traffic locally, enhancing the efficiency and performance of the internet. In this context, we offer the following **key clarifications**:

- **IXPs do not provide internet service directly or indirectly.** They are neutral interconnection hubs where networks (ISPs, content providers, cloud services, etc.) exchange traffic.

- **Peering at an IXP is a business-to-business (B2B) arrangement**, not a business-to-consumer (B2C) service.

❖ **How the response presented in the Parliament is incorrect**

The response provided in the Parliament appears inconsistent not just with the definition of IXP but also with the well-established understanding of IXPs as articulated by TRAI itself in multiple policy consultations. For instance, in its recommendations on [*‘Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India’*](#) (2022), TRAI explicitly states that: “*An IXP (through an ISP license) cannot be expected to provide internet services to prospective customers when the provision of internet services is not the IXP’s core business. IXPs provide B2B service...*”

In fact, in its recent recommendations on the consultation on the [*‘Terms and Conditions of Network Authorisations to be Granted Under the Telecommunications Act, 2023’*](#) TRAI explicitly states that “*...On the other hand, an IXP provider deploys an internet exchange (a system of telecommunication equipment) only to provide peering and exchange of data traffic to ISPs and CDNs. As IXPs are only network providers to ISPs and CDNs, and not service providers to end users, it would not be appropriate to regulate IXPs through the internet service authorisation*”.¹ **Thus, it is amply clear that an IXP does not provide internet services, directly or indirectly, to end consumers.**

Further to this, despite recently obtaining an ISP licence, in [response](#) to the above mentioned consultation, NIXI too had categorically stated that IXPs do not provide telecommunication services.¹

❖ **Implications of the response provided in the Parliament**

The assertion that IXPs “indirectly” provide internet service to end users is not only factually incorrect but also dangerously misleading. This misclassification would improperly burden IXPs with service provider regulations - obligations that are impractical, onerous, and technically incompatible with their core function as traffic exchange facilitators. It would

- **Force IXPs into incorrect categorisation while designing the regulatory framework and subject them to impossible compliance burdens**, such as content filtering and URL blocking, despite having no control or visibility over end-user traffic.
- **Create onerous regulations, as a consequence, that would undermine India’s internet efficiency** by discouraging IXP growth, increasing latency, and raising costs—directly contradicting the Digital India mission.

Legal Clarification on IXPs and Service Provision

¹ “IXPs serve as physical interconnection points, enabling autonomous networks— such as Internet Service Providers (ISPs), data centers, and content providers—to exchange internet traffic locally. They function as neutral platforms that facilitate efficient data routing and reduce latency. Unlike telecommunication networks, IXPs do not provide end-to-end connectivity or telecommunication services directly to end users. Therefore IXPs does not meet the criteria for “telecommunication services” under the Act. We recommend that TRAI reconsider the classification of IXPs within this consultation. Recognizing IXPs as neutral interconnection infrastructure.”

The [TRAI Act](#) defines ‘*telecommunication service*’ under Section 2(1)(k) as service “*made available to users*” – a threshold IXPs cannot meet, as they merely facilitate B2B traffic exchange without end-user interaction. This aligns with [Viom Network Ltd. v. S. Tel Pvt. Ltd.](#), where the Hon’ble Delhi High Court clarified that the word ‘*licensee*’ under Section 2(1)(e) applies only to entities providing services to the public. So, Justice Endlaw’s interpretation further confirms that since IXPs do not provide telecommunication services to the public, they should not qualify as licensee. Moreover, the issue of subjecting IXPs to an ISP license, is currently *subjudice* in a writ petition before the Hon’ble Delhi High Court.

We hope this clarification is taken in the constructive spirit it is offered. Given the critical role of IXPs in India’s digital infrastructure, **we request a meeting with you at your earliest convenience to discuss this matter further and provide necessary technical insights.**

Sincerely,



Raunak (Apr 3, 2025 17:38 GMT+5.5)

Raunak Maheshwari
Executive Director
Extreme Labs
+919261199444
LinkedIn: www.linkedin.com/in/raunakam



Satish V Madala (Apr 3, 2025 17:35 GMT+5.5)

Satish V Madala
Managing Director
Amaravati People Foundation & Amaravati Internet Exchange
+91 9701997777
LinkedIn: <https://www.linkedin.com/in/satishvmadala/>