

Nasscom's Feedback on Telecom Regulatory Authority of India Consultation Paper on the Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023

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SUMMARY OF RECOMMENDATIONS**1. Hosted Contact Center Service Providers (HCCPs)**

- HCCPs function in a manner like the Other Service Providers (OSPs). Hence, they should be treated similar to OSPs, and a similar light-touch regime should be considered.
- Adopting this approach would align India with the international practices where value added services (VAS) like HCCPs are not licensed.

2. Audiotex

- Audiotex licenses should be migrated to Authorisation. TRAI's recommendations on 'Guidelines for Unified License/Class Licenses and Migration of Existing Licenses' of April 2012 mention the terms and conditions under which such authorisation should be granted.ⁱ
- The extant financial obligation on audiotex licensees to pay license fee as 8% of their adjusted gross revenue (AGR) is having a debilitating effect on MSMEs and therefore, it should be discontinued with immediate effect.
- In the interim period as an immediate measure, until Department of Telecommunications (DOT) notifies a light touch regulatory framework, DOT should clarify that no further demand (impose a moratorium) shall be raised for license fee on the existing audiotex licensees.

3. Dark fiber

- Allow UL (Universal License)/UL virtual network operator (VNO) access and national long distance (NLD) license holders to provide dark fiber to data centres (DCs).
- This would align India with the global position where unlicensed entities have access to dark fiber without regulatory restrictions, if they do not connect to the public telecom network.

4. Internet exchange points (IXPs)

- 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.
- 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.

5. Content delivery networks (CDNs)

- CDNs should not be brought under any kind of licensing/ 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.

6. Nationwide Internet Telephony License

- UL (Access) License for Internet Telephony to various entities offering cloud-based business voice solutions should be granted on a Nationwide basis.
- This will enable faster and cost-effective roll out of services which will allow the IT/BPM industry to have a productive engagement with co-workers and their customers.
- In the global context, we have not come across a similar regulatory framework which is based on circle-based licensing.

7. Captive Use Authorisation

- Allow 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, various related regulatory obligations may not be required/applicable under this authorisation.

INTRODUCTION

Nasscom welcomes the opportunity to submit our response to the Consultation Paper on “*The Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023*” (**Consultation Paper/Paper/CP**) released by TRAI in July 2024ⁱ.

The Government announced that the Telecommunications Act, 2023 (Telecommunications Act) was guided by the principles of Inclusion, Security, Growth and Responsiveness, the Act aims to achieve the vision of Viksit Bharat.ⁱⁱⁱ We endorse these principles because clear and well defined objectives of a legislation goes a long way in ensuring the purpose of a law is met. For instance, the Communications Act in the U.S. clearly provides that this is an “*Act to promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies*”^{iv}.

In our [response](#) to the draft Telecommunications Bill, we had recommended that the licensing regime should be designed (1) using an activity-led and risk-based approach (2) that ensures obligations on an activity are proportionate to the harms and risks associated with it (3) whilst keeping in mind the need to avoid regulatory overlaps.^v

We understand that the Telecommunications Act uses the term ‘authorisation’ (*not license* as used in the Telegraph Act, 1885) in section 3 where a person intending to provide telecommunication services, establish, operate or maintain telecommunication network or possess radio equipment, shall obtain an authorisation from the central government.

Further, the Telecommunication Act 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.

We note that the TRAI CP duly acknowledges the above statutory position and refers to the international practice where in certain countries, the sector regulators/governments authorise the applicants to provide the requested service(s) by way of issuing a license/ authorisation/ permission/ registration to them.^{vi} With this background, we have identified the following services where there is a strong case for rationalisation considering the huge technological advancements and evolved business models:

1. HCCSPs
2. Audiotex
3. Dak Fibre
4. IEXPs
5. CDNs
6. Nationwide Internet Telephony License
7. Captive use authorisation

In the past nasscom has consistently advocated for reforming the regulatory framework for the above-mentioned services given the existing framework has had an unintended effect of creating entry barriers and disincentives to entrepreneurs, start-ups and small enterprises looking to create innovative solutions in the respective space.

Given now India has a new telecom law which aims to provide a progressive and inclusive telecommunications ecosystem, this is a good opportunity for TRAI to reconsider our recommendations and address the concerns which is impeding the growth of the above-mentioned services.

1. Hosted Contact Center Service Providers

HCCSPs are value added applications services operating as standalone services on top of the basic telecom infrastructure layer. They operate on Software as a Service (**SaaS**) design and their business model itself does not actually intend to replicate or be an extension of a telephony/telecom service provider (**TSP**). Various models of service offering by CCSPs are providing a combination of services such as EPABX, IVR, call handling, call recording, contact centre data analytics, customer relationship management, etc.

Simply put, HCCSPs are like virtual (hosted on cloud) OSPs. To elaborate, while in OSPs voice operation is handled by the physical agents who makes/receive outbound/inbound calls, in case of HCCSPs, such voice operations are automated (digital agent) using a software program such as artificial intelligence, machine learning, etc.

Based on industry inputs, we have listed below some of the similarities between the functioning of OSPs and HCCPs:

- Both obtain resources from TSPs to provide services to their enterprise customers.
- Both are not resellers of telecom services.
- Both escalate calls to agents.
- Both pay toll or charges for the utilisation of telephony services to the TSPs.
- Both store CDRs as per the Government requirement.

HCCSPs offer services that leverage core telecom services and provide additional services that merely add value to the customer. Such additional services may be PSTN based services or IP–PSTN based services.^{vii} In each of these cases, there is no resale of core telecom services. Further, the toll or charges is paid by HCCSPs to TSPs as bulk subscribers for telecom trunks.

In today's context, HCCPs are providing essential technological solution for the OSP operations which can help reduce their technology operations costs by at least 50% as compared to legacy systems. For example, HCCSPs are automating the human agent calling aspect by using cloud telephony technology to scale up operations and thereby catering to multiple sectors, like e-Governance, health, finance, health insurance, telecom, airlines, e-commerce (like, cab aggregators, food aggregators). We have listed some popular use cases of HCCPs where it has contributed to creation of digital public goods for governance and public health (**See, Annexure I**).

At present, there is no regulatory recognition of HCCPs. Moreover, the regulatory landscape has for long deemed the services provided by HCCSPs as audiotex services. Because of this regulatory uncertainty, some HCCSPs entities have obtained audiotex license in the past which has further created an unlevel playing field.

However, due to large scale technological developments, the HCCSP services have evolved to become comprehensive business solutions, which could not be bracketed within the scope of audiotex services alone.

There is immense potential for new technology-based offerings by HCCSPs that leverage natural language processing, automatic speech recognition, speech to text using the latest artificial intelligence platforms. For a country of the scale of India with varied vernacular dialects and diverse business demands and solutions, investments to enable such offerings, can catalyse optimal exploitation of voice technology and bridge the digital divide for non-English speaking populations across the country.

Recommendations

- **HCCPs function in a manner like the OSPs. Hence, they should be treated similar to OSPs, and a similar light-touch regime should be considered.**
- **Adopting this approach would align India with the international practices where VAS like HCCPs is either not regulated or subject to light touch regulatory framework (See, Annexure II).**

2. Audiotex

With various flip flops in the regulatory regime for Audiotex service providers, the earlier required Authorisation for these services was changed to a licensing regime. A chronology of the same is provided in **Annexure III**.

While the Indian regulatory landscape has for long deemed the services provided by CCSPs as audiotex services. However, due to large scale technological developments, the services evolved to become comprehensive business solutions, which could not be bracketed within the scope of audiotex services alone.

Concepts like audiotex no longer exist as a standalone service and needs to be updated considering the current technological innovations. For instance, the ITU standards does not refer to audiotex services. Further, in 1994 ITU recommended that the use of the term stored voice services should be encouraged and the term Audiotex be deprecated in the field of standardization.^{viii}

The services provided by Audiotex providers cannot be termed as licensed activities, since they are offered on top of core/access services. Also, since no toll bypass exists in such services, there should only be an appropriate light-touch/ self-regulatory framework in line with global best practices, instead of subjecting such services to a licensing regime. In fact, this is exactly how the self-regulatory framework has been developed for OSP's.

The global pandemic has led to an increased dependence on the platforms offered by CCSPs and burdensome licensing procedures, could negatively impact the ability of smaller businesses to rapidly enable communications solutions without incurring capex. Likewise, adopting a light-touch and business-friendly regulatory environment can contribute to the achievement of the Government's Atma Nirbhar Bharat goal, enable the development and growth of a competitive market for cloud telephony and emerging voice processing technologies in India.

In fact, in 2020, TRAI in its recommendations on Spectrum Management and Licensing Framework had recommended that Pure Value Added services like Voicemail/ Audiotex/UMS will not be brought under the Unified License Fee Regime.^{ix}

Recommendations

- **Audiotex licenses should be migrated to Authorisation. TRAI's recommendations on 'Guidelines for Unified License / Class Licenses and Migration of Existing Licenses' of April 2012 mention the terms and conditions under which such authorisation should be granted.^x**
- **The extant financial obligation on audiotex licensees to pay license fee as 8% of their AGR is having a debilitating effect on MSMEs and therefore, it should be discontinued with immediate effect.**

- **In the interim period as an immediate measure, until DOT notifies a light touch regulatory framework, DOT should clarify that no further demand (impose a moratorium) shall be raised for license fee on the existing audiotex licensees.**

3. Dark Fibre

Currently the license framework states that a licensed service provider (**LSP**) may provide leased circuits within its respective service area.^{xi} However, it is not clear whether provision of leased circuit includes provision of bandwidth to enterprises or dark fiber as well.

Due to this lack of regulatory clarity, licensees provide dark (unlit) fiber only to LSPs. This also means licensees do not provide dark fiber to unlicensed enterprises like DCs for connecting customer equipment located in two or more DCs (this is not connected to public network and only meant for managing inter-DC data traffic of such Enterprises).

As existing DCs reach capacity, new DCs are built in nearby locations to allow enterprise customers to expand their hosting set-up. For example, it becomes crucial when DC wants to expand its scope beyond one building/campus to a nearby location which is **across a public road** and wants to link them both using dark fibre. Such DC customers will need to connect their IT set-ups in the two DCs over LAN, preferably same was as they connect inside the DC/campus, since the other DC is just an extension of their existing facilities.

Currently, DCs are constrained to take leased bandwidth from TSPs even for captive connections which is expensive and adversely impacts the EoDB as even for their set up at two DCs placed few kms away they cannot use dark fibre, which is an affordable and a reliable option for such short distance connectivity. This is contrast to global position where private entities using dark fiber are afforded flexibility like, freedom to choose protocols and equipment to install such networks and expand bandwidth as per use. Our earlier submission to TRAI on global position is attached as **Annexure – IV**.

There is a need to align with the global best practices (like, in U.S., Singapore, Australia and U.K.) where no similar regulatory restrictions are imposed on the use of dark fiber which does not involve offering connectivity to the public at large, that is, for ‘captive’ purposes (such as the creation of a private network).

Given India could be a major global hub of DCs, dark fiber provisioning would offer a major fillip to EoDB in India. This would also be in line with government’s Digital India mission and create internationally competitive conditions for DCs in India.

It may also be noted that the Government plans to create DC parks in various regions, where companies will be able to set up DC in the same park, at a little distance apart, which would require connecting two buildings.^{xii} In fact, the Government in Uttar Pradesh has already announced setting up of DC parks in the State.^{xiii}

Recommendations

- **Allow UL/UL-VNO access and NLD license holders to provide dark fiber to DCs.**
- **This would align India with the global position where unlicensed entities have access to dark fiber without regulatory restrictions, if they do not connect to the public telecom network.**

4. Internet Exchange Points

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.^{xiv} 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 organizations 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".^{xv}

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.^{xvi}

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 the nature of 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.

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.**

5. Content Delivery Networks

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).^{xvii}

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. 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.^{xviii} The U.S. also does not regulate CDNs with a view to spur investment, innovation, and competition and to increase transparency to protect consumers.^{xix} 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.^{xx} 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.**

6. Nationwide Internet Telephony License

In the recent past, DoT has granted UL (Access) License for Internet Telephony to various entities offering cloud-based business voice solutions. This new technological development will immensely benefit the software, BPM business industry by increasing productivity and make India a preferred destination.

Presently, for providing internet telephony services by an Access Service licensee, **a circle-wise access service authorisation is required under the UL whereas similar internet telephony services (without PSTN) can be provided by ISPs on a nationwide basis**. It is pertinent to note that these Access Service licensees do not have spectrum.

Due to artificial barriers emanating from the current **circle-wise access service authorisation**, these licensees face various issues while serving their customers across the country as most of these have offices in different states/telecom circles. For example:

- **Number allocation and management:** Since different numbering series are allocated in different circles, the requirement of clients of getting contiguous numbers for all their employees cannot be fulfilled. A pan-India numbering series would eliminate this issue. Presently, the existing UL allows centralised equipment/or equipment to be located outside the LSA even for circle based AS License. Allowing numbers to be allocated on a Nationwide basis can be done by creating a new (Location Routing Number) LRN for Nationwide numbers. This will make the service truly Unified.
- **Multiple Customer Acquisition Forms (CAFs) & KYC:** Different CAFs and KYC has to be done for authorised signatories in all multiple offices. An MNC would prefer to sign one CAF for all their employees for giving them access to internet telephony services.
- **Adjusted Gross Revenue (AGR) filing:** This also has to be done circle wise. Similar to income tax which allows consolidated filing and computation at one IT Circle, even for AGR these licensees should be allowed a single consolidated filing and computation of AGR for all Circles and Services (Non-Spectrum based services).

Internet Telephony provides services to the entire nation similar to Audio Conferencing. It was for this reason that few years back DoT converted Audio Conferencing service from SDCA specific license to Nationwide license. It is also important to note that post-COVID, globally the concept of workplace is not tied to a specific location but has become global/ nationwide. For the same reason, now-a-days, the workplace of IT/BPM/call centre industry is nationwide and not restricted to their branch state/circle office.

Recommendations

- **UL (Access) License for Internet Telephony to various entities offering cloud-based business voice solutions should be granted on a Nationwide basis.**
- **This will enable faster and cost-effective roll-out of services which will allow IT/BPM/Call Centre industry to have a productive engagement with co-workers and their customers.**

7. Captive Use Authorisation

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.

In order 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 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, in particular, 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

- **Allow Captive Use Authorisation under the Telecommunications Act 2023 allowing 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, various related regulatory obligations may not be required/applicable under this authorisation.**

Annexure I – Popular use-cases of HCCPS

Name of project	Application
Prime Minister's Mann ki Baat	Radio broadcast program where citizens can interact with the Prime Minister of India. This establishes a dialogue with the citizens on issues of day-to-day governance.
Treatment Advice by Mobile Alerts (TAMA)	TAMA is helping to strengthen healthcare systems by improving patient engagement. Using cloud telephony services, mobile alerts are sent to illiterate patients and patients in rural areas who may not be using smart phones.
Project StepOne	StepOne is a volunteer driven public telemedicine system which provided services like COVID-19 medical teleconsultation and mental health support. ¹

Annexure II – Internation position on HCCPS

Country	Regulatory Position
United Kingdom	No license. There is no express regulatory regime or a licensing requirement applicable to entities offering services like CCSPs/HCCSPs in India. Different laws of the UK such as the Data Protection Act 1998 (in relation to handling of customer data) may independently apply. Generally, industry associations monitor compliance with their internal codes of practice.
Singapore	Licensed as VAS – light touch. Singapore has a light regulatory framework applicable on CCSPs. Since CCSPs offer (over-the-top) services rather than telecom facilities themselves, they are required to get a Service-Based Operations (SBO) License. Operators who lease telecommunication network elements (such as transmission capacity) from any Facilities-Based Operator (FBO) licensed by the Infocomm Media Development Authority (IMDA) are classified under the category of “Value Added Store and Forward Services.
U.S.	No license. Application services offered by CCSPs/HCCSPs do not fall under the scope of licensed activities in the US.
Canada	No license. Scope of services that may be registered by the Canadian telecom regulator, Canadian Radio-television and Telecommunications Commission (CRTC) does not cover applications services such as those offered by CCSPs/HCCSPs.
Brazil	No license. Entities providing value added services (serviço de valor adicionado, SVA) do not require a licence as they complement and assist telecommunication activities and are considered neither telecommunication nor broadcasting services.
South Africa	No license. South Africa’s telecom regulator, the Independent Communications Authority of South Africa (ICASA) has exempted certain services from licensing requirements, like, private electronic communication network services, small networks, <i>ancillary services</i> and electronic communication services provided on a not-for-profit basis, and electronic communication services provided by resellers. An application for a licence exemption must be lodged with ICASA and there is no fee charged for such application.

Annexure III – Chronology of regulatory developments in audiotex services

Year	Regulatory Developments
1994	The National Telecom Policy, 1994 (NTP 1994) was issued which allowed basic tele services to provide audiotex services as VAS to its subscribers.
1999	The National Telecom Policy, 1999 (NTP 1999) included an authorisation in the Cellular Mobile Telecom Services for the provision of audiotex services as VAS.
2012	The Telecom Regulatory Authority of India's (TRAI) recommended that services like VMS, audiotex, UMS and other VAS can be provided by licensing through authorisation by using network of Unified Licensee (UL). DOT issued UL but VAS such as audiotex services, part of the telecom license (basis and CMTS) was not included in the UL . However, access service providers could provide "Voice Mail/Audiotex/Unified Messaging" services.
2016	DoT referred the TRAI to review the terms and conditions for issue of licences for Voice Mail/Audiotex/Unified Messaging Services since Voice Mail/Audiotex/Unified Messaging" services was not part of UL and continue to be issued as per the Guidelines prior to issue of UL. TRAI recommended that a new chapter authorising "Audio Conferencing/Audiotex/Voice Mail services" should be added in the UL. Further, TRAI recommended that annual license fee for the audio conferencing/audiotex/voice mail service authorisation shall be same as that in other license authorisation in the UL, i.e., 8% of adjusted gross revenue (AGR) .
2021	DoT made audiotext license a part of the UL by adding a new chapter for this authorization. Under the revised policy, license fees of the new licensees and existing licensees will be 8% of AGR , which is at par with other licensees of UL. The new framework has come into effect from January 01, 2022.

Annexure IV – Nasscom’s submission to TRAI on ‘Global Regulatory Practices on Use of Dark Fiber for Captive Use’

NASSCOM®September 16th, 2022

To,

Shri Sanjeev Kumar Sharma,
Advisor, (Broadband and Policy Analysis),
Telecom Regulatory Authority of India,
Mahanagar Doorsanchar Bhawan,
Jawaharlal Nehru Marg,
New Delhi, Delhi 110002

Subject: Global regulatory practices on use of dark fiber for captive use

Dear Shri Sharma,

We appreciate this opportunity given to us by the Telecom Regulatory Authority of India (TRAI) to offer inputs on global regulatory practices on the use of dark fiber for captive use. In an accompanying **Annexure**, we have briefly discussed practices in four jurisdictions: the United States of America, Singapore, the United Kingdom, and Australia.

We note that, currently, in India, some regulatory restrictions deter the use of dark fiber for captive use.¹ The fact that regulation holds back this practice is also corroborated by the fact that the TRAI has specifically held a consultation on the possibility of allowing data centres to use dark fiber networks for captive use.² This indicates that there is scope for reform to consider.

From the global best practices discussed in the Annexure, we note that, as opposed to the current approach in India, there are no regulatory restrictions imposed in other jurisdictions on the use of dark fiber for purposes that do not involve offering connectivity to the public at large, that is, for ‘captive’ purposes (such as the creation of a private network). Further, private entities using dark fiber are afforded flexibility like, freedom to choose protocols and equipment to install such networks and expand bandwidth as per use.

We hope these learnings are useful to the TRAI as it considers an important issue. We remain available to address any queries in relation to the present inputs.

Thank you.

Sincerely,
Ashish Aggarwal
Vice President and Head of Public Policy

NASSCOM®**Annexure****Regulatory practices in different jurisdictions on use of dark fiber****1. United States of America**

The principal telecom regulator (at the federal level) in the United States is the Federal Communications Commission (FCC). The main law applied by the FCC to the sector is Communications Act of 1934 (Communications Act).ⁱⁱ

The FCC has determined that, while dark fiber can fall, in principle, within its regulatory authority under the Communications Act, it is only regulated if the provider is offering the dark fiber as a common carriage or to the general public indiscriminately. However, if the provider provides dark fiber after determining with whom to deal, when and on what basis, it is private carriage and not subject to the jurisdiction of the FCC (or even the states).^{iv}

Further, unlicensed entities can, in the US, have access to dark fiber networks without regulatory restriction.^v In fact, in some states, the leasing of dark fiber by unlicensed entities is specifically clarified. For example, in Texas, the Public Utility Regulatory Act permits municipalities to lease its dark fiber to unlicensed entities (like a data centre) on a non-discriminatory and non-preferential basis.^{vi} End-users usually have control over the captive network. For instance, under the dark fiber agreements with network providers, end-users acquire indefeasible rights of use (IRU)^{vi} where they obtain an exclusive right to use a facility.^{xiii}

2. Singapore

The principal telecommunications regulator in Singapore is the Info-communications Media Development Authority (IMDA). The main law applied by the FCC to the sector is the Telecommunications Act of 1999 (Singapore Act).^{ix}

Singapore has a simple license regime comprising of two categories: (1) facilities-based operations (FBO)^x that deploy or operate a telecom network and system for providing telecom services and can offer their own telecom services via such elements; (2) services-based type of operations (SBO)^{xi}, who lease networks and systems from FBOs to provide their own telecom services or to resell FBOs' telecom services to third parties.^{xii}

Both FBO and SBO licensees can resell local leased fixed line connectivity services, including dark fiber, to unlicensed customers, like a data centre.^{xiii} However, licensees must ensure that their customers do not connect to any public switched networks.^{xv}

3. United Kingdom

The principal telecom regulator in the UK is the Office of Communications (Ofcom). The main laws applied to the sector are the Communications Act of 2006 and the Wireless Telegraphy Act of 2006.^{xv} As per our review of the regulatory framework in the UK, there are no restrictions imposed on the provision of dark fiber to unlicensed end-users (like a data centre). The end-user can have control over the network, that is, they can install and operate optical networking equipment at each-end of a dark fiber network to make it operational.^{xvi}

We did note that Ofcom can impose access obligations on providers of communications networks or services that have been designated as having significant market power (SMP).^{xvii} Recently,

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Ofcom required Openreach, an infrastructure provider under the British Telecom group that has been designated as SMP, to provide access to dark fiber to telecom service providers, for the supply of leased lines in areas where there is unlikely to be material commercial deployment by Openreach's rival networks.^{xviii} This is the main type of a regulatory restriction imposed on the provision of dark fiber; it does not, as such, curtail the provision of dark fiber for captive use.

4. Australia

The principal telecom regulator in Australia is Australian Communications and Media Authority (ACMA). The main laws applied to the sector is the Telecommunications Act 1997. In Australia, a license is only required if an entity acts as a "carrier", that is, they own network unit that is used to provide any fixed, mobile or satellite services to the public. A license is not required for an entity that does not own any such network unit and instead acts as only as a "carriage service provider", that is, it leases such a unit to provide telecom services (whether to the public or otherwise).^{xx} Both carriers and carriage service providers can provide dark fiber access to an unlicensed entity, like a data centre, where the entity has control over the network.^{xx} Moreover, there is as such no regulatory restriction on provision of dark fiber network for captive use.^{xxi}

¹ Specifically, the present terms and conditions contained in the Guidelines for Infrastructure Service Providers prohibit entities holding an IP-1 registration from providing dark fiber to unlicensed entities. See, DOT, [Revised Guidelines for Registration of Infrastructure Providers – Category I](#), (2021).

² See, TRAI Consultation Paper on the 'Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India', (2021).

³ See, [Communications Act of 1934](#).

⁴ See, [Order of the Federal Communication Commission](#).

⁵ As an example, consider the services offered by Zayo, a communication infrastructure services entity in the U.S., provide private fiber connectivity to enterprises, including data centres. See, Zayo, [Innovation runs on Zayo Fiber](#).

⁶ See, Sec. 54.2025 of [Title 2 Public Utility Regulatory Act](#). An [agreement](#) for leasing dark fiber allows non-telecom entities to commercially enter into arrangements for leasing dark fiber, where the user is responsible for providing and attaching equipment to transmit the light to carry data via the fiber.

⁷ IRU permits sharing of capacity on the whole and independent usage of the part (like in the case of dark fiber network), yet the control over the entire asset is not passed to each of the users. See, Nidhi Bothra, [Introduction to Indefeasible Right to Use](#) (2014).

See, Archives of the Securities and Exchange Commission, [Indefeasible Right of Use Agreement](#).

⁸ See, Lexology, [Enterprise Customers and Dark Fiber: An Important Connection \(Part 2\)](#), (2017).

⁹ See, Section 5 of the [Telecommunications Act, 1999](#).

¹⁰ See, IMDA, [Facilities-Based Operations License](#).

¹¹ See, IMDA, [Services-Based Operations License](#).

¹² See, IMDA, [Guidelines on Submission of Application for Facilities-Based Operations License](#).

¹³ See, IMDA, Schedule B (Annex 2) of [Specific Terms and Conditions for Resale of Local Leased Fixed-Line Connectivity Services](#) and Para 2.5 of [Guidelines for Submission of Application for Services-Based Operations License](#). Also, see, Lexology, [Q&A: telecom and media law in Singapore](#).

¹⁴ *Ibid.* See, [SpTel](#). Firms can decide what service platform to use and what protocols to deploy over the dark fiber network for full oversight of network usage, physical pathways and bandwidth expansion.

¹⁵ See, Guidance, [The telecoms regulatory framework in the UK](#).

¹⁶ See, CSMG Report prepared for Ofcom, [Research on Very High Bandwidth Connectivity](#), (2013). As an example, see the services offered by Neos Networks, a fiber infrastructure provider, which provides dark fiber network services to multiple organisations in the UK, including data centres. [Custodian](#), one of the client data centres of Neos Network, required a solution which it could fully control and manage itself from its own network operations centre.

¹⁷ See, Section 87 of the [Communications Act, 2003](#).

¹⁸ See, Ofcom [Dark Fiber Consultation](#) (2017).

¹⁹ See, Australian Communications and Media Authority, [About Carriers and Carriage Service Providers](#), and See, The Law Reviews, [The Technology, Media and Telecommunications Review, Australia](#), (2022).

²⁰ See, Dundas Lawyers, [Dark fiber agreements for telcos](#), (2020). See, Australian Competition and Consumer Commission, [Dark Fiber and NBN Wholesale Aggregation – Proposed Record Keeping Rules](#), (2019). For an example of a service provider providing dark fiber to unlicensed entities, see, Fiber Vision Networks, [Dark Fiber](#).

²¹ See, Australian Communications and Media Authority, [Trends and developments in telecommunications 2020–21](#), (2021).

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About nasscom

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End Notes:

- ⁱ See, TRAI's recommendations on '[Guidelines for Unified License / Class Licenses and Migration of Existing Licenses](#)' dated April 16, 2012 Section III, page 28 Sr. 1 through 14.
- ⁱⁱ See, Telecom Regulatory Authority of India, '[Framework for Service Authorisations to be Granted Under the Telecommunications Act, 2023](#)' (July 2024).
- ⁱⁱⁱ See [PIB Press Release](#)
- ^{iv} Title of the United States Communications Act of 1996, <https://transition.fcc.gov/Reports/tcom1996.pdf>
- ^v See [nasscom response to draft Telecommunications Bill](#)
- ^{vi} See TRAI CP, page 29, para 2.16
- ^{vii} **PSTN based HCCSPs:** PSTN based HCCSPs offer telephony application services to calls that are made on the PSTN network of a licensed access service provider. These application services may even involve connecting two call legs i.e., one call-leg that originates from the caller outside the HCCSP and the other call that originates at the HCCSP and terminates with the end receiver. In both these call legs, the PSTN services are provided by a licensed access service provider and the HCCSP do not play a role in providing any such PSTN services. **IP-PSTN based HCCSPs:** PSTN based HCCSPs offer telephony application services such as call handling, call routing, data analytics, etc. which are value added services to calls that may be made on both PSTN and IP networks where the access and internet services are facilitated by licensed providers. These HCCSPs may also provide application services where the two call legs are PSTN and IP. However, where PSTN-IP network interconnection occurs, such interconnection is provided by a licensed provider and is not facilitated by the HCCSP.
- ^{viii} See, ITU, Terminal Equipment; An investigation into the need for standardization in stored voice services, June 1994.
- ^{ix} See, para 2.118 of TRAI recommendations [Spectrum Management and Licensing Framework](#)- The Authority recommends that all licences/registrations viz. Basic/CMTS/UAS Licences in all the telecom service areas, NLD, ILD, ISP, ISP with IT and GMPCS and IP-I, PMRTS, Commercial VSAT, leftover IP-II licensees till their migration to NLD licence is finalized and IPLC should be brought under the purview of a uniform licence fee regime. Pure value added services i.e., Voicemail/Audiotex/UMS need not however be brought under this regime.
- ^x See, TRAI's recommendations on '[Guidelines for Unified License / Class Licenses and Migration of Existing Licenses](#)' dated April 16, 2012 Section III, page 28 Sr. 1 through 14.
- ^{xi} Department of Telecommunications, License Agreement for Unified License, Chapter III – Access Service Scope of access service – 2.1(a)(v) *The Licensee may provide leased circuits within its respective service area. Interconnection of leased circuits, whether point to point or in CUG network, with PSTN/PLMN/GMPCS/Internet Telephony Network is not permitted,* https://dot.gov.in/sites/default/files/Unified%20Licence_0.pdf
- ^{xii} MEITY draft [Data Centre Policy](#)
- ^{xiii} Uttar Pradesh [Data Centre Policy](#)
- ^{xiv} See [Internet Society Pulse Country Report 2023](#)
- ^{xv} See [Analysys Mason report](#)
- ^{xvi} See TRAI CP on '[Regulatory Framework for Promoting Data Economy Through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India](#)', Annexure-III
- ^{xvii} 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
- ^{xviii} 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
- ^{xix} See FCC [Restoring Internet Freedom Order](#)
- ^{xx} See [BEREC Regulation](#)