

**CONSUMER PROTECTION ASSOCIATION  
HIMMATNAGAR  
DIST. : SABARKANTHA  
GUJARAT**



**Comments  
On  
'Introduction of Digital Connectivity Infrastructure Provider (DCIP)  
Authorization under Unified License (UL)'**

**Introduction :**

2023 brings an era where digital infrastructure and service have conspicuously become the backbone of global economies and trade. The preceding lockdown worldwide led up to the frenzied global race initially for digital scaling and then autonomy and supremacy. By the start of 2023, digital infrastructure and solutions already secured recognition as valued assets for creating new business model and boosting intra-border and cross border market growth and investment in nearly all sectors.

The content driven digital information and communications technology ( ICT ) sector is thriving more than ever. As of 2022, the ICT sector and digital economy contributed over 13% to India's GDP, which is aimed to grow to 20% by 2025, according to the international trade.

The need for digital communications after pandemic coupled with 5G roll out have raised the demand for improved quality efficiency and accessibility of

ICT services, what has also grown is the reliance of many sectors on ICT services for their business outreach, growth and expansion.

In this environment of ICT growth, the rising industry wide concerns over licensing and regulatory frameworks around ownership and operation of communication infrastructure, and ambiguities around sharing of digital infrastructure like fiber, towers and antennae ( for efficient use of resources ) have led to take corrective action.

Data centers, content Delivery Networks (CDN ) and internet exchange/internet exchange points ( IxP ) play crucial role in the ICT sector and transmission of content across different locations, especially with proliferation of 5G, Internet of Things and Artificial Intelligence ( AI ). Increase adoption of the internet and demand for high “ quality of service “ for reach media and heavy content formats has sparked the need for investment in this sector.

The National policies and “ Smart City “ initiatives, to promote such services and system are pushing the need for legal and regulatory tweaking. Digital infrastructure ecosystem comprising of data centers, CDN and Internet exchange goes beyond tier-I cities and should be made accessible across India aligned with the vision and goals of “ Digital India “. This will birth new opportunity for investment.

The Industry currently depends on telecom licenses to facilitate transmission of content, set up ICPs, peer and exchange IP traffic, etc.. This often results in increased cost burdens and creates entry barriers for smaller players. With the growing data traffic and only a limited number of players controlling a significant proportion of Internet traffic, TRAI should also wary of anticompetitive agreements between CDNs, ISPs/TSPs and Internet companies.

**Issues for consultation :**

**Q1. Comments of stakeholders are invited on the proposed DCIP Authorization under UL (attached at Annexure V). They may also offer their comments on the issues flagged in the discussions on terms and conditions and scope of the proposed authorization. Any suggestive changes may be supported with appropriate text and detailed justification.**

**Comments :**

License issued by the government or TRAI is an authority, given to a person or organization upon certain conditions to do something which would have been illegal or wrongful otherwise. A technology and service neutral license is good.

We agree with the decision to create a new category of license that focus on creation of active and passive digital connectivity infrastructure. We also agree with the incentivized such entity by exempting them from payment of any license fee. It can definitely help in speedy DCI penetration in the country. Incentivizing passive infrastructure-sharing at the government level can be a key enabler and the CSPs can voluntarily engage in promoting this concept. National governments can provide technical assistance to municipalities and encourage the development and updating of local regulations that promote infrastructure-sharing, including simplified permitting processes for small cells and macro sites, and a radius of non-proliferation.

For existing service providers, sharing of infrastructure can be an option.

The new set of DCIP license operator can set last mile operation and even cable service providers can provide a helping hand in boosting broadband tele-density target even in difficult areas for coming years.

For example :

The Bharat Net fibre can be utilized by service providers in two ways:“

1. Bandwidth utilization: Bharat Net connects gram panchayats to the block optical line termination (OLT) location. Any service provider/government agency that intends to provide its services at the GP-level may connect to Bharat Net at the block optical line termination location from where its traffic is carried to the GP-level on Bharat Net. At the GP, the service provider has to extend its services to end customers using its own last mile.
2. Dark fibre utilization: Service providers may also utilize the dark fibre on the new cable laid between blocks and GPs, also called incremental cable, to extend their services to GPs. The dark fibre is available from the Fibre Point of Interconnect (with the existing fibre) to the GPs.”

Digital connectivity infrastructure providers likely results in increased common sharable DCI and network resources, reduction of cost, attract investments, strengthen the service delivery segment and can also prove to be catalyst in proliferation of 5G services for industry 4.0, enterprise segment an various other use cases.

**This will encourage the new entrant who would seek investments in this sector. This will also allow existing telecom operators to restructure or demerge their active infrastructure undertakings and monetize these assets by sharing it with other operators-without incurring license fee on those revenues while also attracting substantial investments in the demerged entity. All such efforts would optimize the use of resources, enabling telecom service providers to divert their capital into infrastructure upgradation and network expansion, opening even more avenues for investments.**

This is likely to result in increased common sharable DCI and network resources, reduction of cost, attract investment, strengthen the service delivery segment, and can also prove to be catalyst in proliferation of 5G services for Industry 4.0, enterprise segment and various other use cases.

One other aspect on which we see “ big tech “, “ big data “ and many other industry players ( especially those dealing with high volumes of data traffic ) voicing their preference is for a freer framework allowing the autonomy and direct control over the ICT infrastructure, including for captive use. Presently these entities remain dependent on “ Licensed “ or “ Registered “ service providers ( burdened by heavy compliance and/or license fees ) to commercially own, operate or provide different categories of infrastructure and services.

A simplified regime may also provide a boost to investment in this sector and enable smaller payers and startups to trade in this industry 4.0'. Going by the current trend of TRAI and Governments efforts to boost the telecom sector and reduce the barriers for potential market entrants, we envisage the industry can expect a favourable outcome.

We all know that tech companies, content providers and TSPs are co-dependent on each other for delivery of digital services to the end users. Accordingly, there is a need to regulate competition to ensure equal access to CDNs, equitable and non discriminatory interconnection options, regulating revenue sharing arrangements to avoid any abuse of dominance among other things.

Thus, a light touch regime is being contemplated which may comprise of license and registration requirements for internet exchange and CDNs. While this may aid in creating a level playing field, such providers may be monitored and be

subject to a flurry of compliance requirements. Whether this will result in emergence of new business model and removing entry barriers, or the onset of onerous obligations and compliance burdens for such entities remains to be seen. **Again participative efforts of the stakeholders is essential to put across industry concern succinctly.**

**What network elements will fall under the category of core elements and will have to be exclude from the scope of DCIPs :**

In telecommunications, a core network – also called a backbone network – is a central conduit designed to transfer network traffic at high speeds. Core networks focus on optimizing the performance and reliability of long-distance and large-scale data communications. They connect wide-area networks (WAN) and local area networks (LAN) altogether.

**Core network Definition :**

A core network is a telecommunication network's core part, which offers numerous services to the customers who are interconnected by the access network. Its key function is to direct telephone calls over the public-switched telephone network.

In general, this term signifies the highly functional communication facilities that interconnect primary nodes. The core network delivers routes to exchange information among various sub-networks. When it comes to enterprise networks that serve a single organization, the term backbone is often used instead of core network, whereas when used with service providers the term core network is prominent.

The facilities and devices used for the core or backbone networks are usually routers and switches, with switches being used more often. The technologies used for the core facilities are mainly network and data link layer technologies, including asynchronous transfer mode (ATM), IP, synchronous optical networking (SONET) and dense wavelength division multiplexing (DWDM).

**Core networks usually offer the following features:**

- **Aggregation:** The top degree of aggregation can be seen in a service provider network. Next in the hierarchy within the core nodes is the distribution networks, followed by the edge networks.
- **Authentication:** Determines whether the user demanding a service from a telecom network is permitted to complete the task within the network.
- **Call Control or Switching:** Determines the future span of a call depending on the processing of call signaling.
- **Charging:** Deals with the processing and collation of charging the data created by multiple network nodes.
- **Service Invocation:** A core network executes the service invocation task for its customers. Service invocation may occur in line with some precise activity (such as call forwarding) by the users or unconditionally (such as for call waiting).
- **Gateways:** Should be used in core network for accessing other networks. The functionality of gateways depends on the kind of network to which it is connected.

While core networks provide a plethora of services, one of their key functions includes routing telephone calls across the public switched telephone

network (PSTN). Usually, the term denotes the high-functioning communication facilities that interlink the primary nodes. Moreover, the core network provides routes to exchange information among different sub-networks. While the term 'backbone' is often used in enterprise network solutions rather than core network, network services providers mostly use the term core network. Furthermore, in 4G long-term evolution (LTE), core networks are known as evolved packet core (EPC).

**Q 2. Are there any amendments required in other parts/chapters of UL or other licenses also to make the proposed DCIP authorization chapter in UL effective? Please provide full details along with the suggested text.**

**Comments :**                      **No Comments.**

**Q3. Are any issues/hurdles envisaged in migration of IP-I registered entities to the proposed DCIP Authorization under UL? If yes, what are these issues and what migratory guidelines should be prescribed to overcome them? Please provide full text/details**

**Comments :**                      **No Comments.**

**Q 4. What measures should be taken to ensure that DCIP Licensee lease/rent/sell their infrastructure to eligible service providers (i.e., DCI items, equipment, and system) on a fair, non-discriminatory, and transparent manner throughout the agreed period? Please provide full details along with the suggested text for inclusion in license authorization, if any.**

**Comments :**                      **No Comments.**



**Q 5. How to ensure that DCIPs lease/rent/sell out the DCI items, equipment, and system within the limit of their designed network/ capacity so that the service delivery is not compromised at the cost of other eligible service provider(s)? Please suggest measures along with justification and details.**

**Comments : No Comments.**

**Q 6. Stakeholders may also submit their comments on other related issues, if any.**

**Comments : No Comments.**

**Thanks.**

**Yours faithfully,**

**( Dr. Kashyapnath )  
President**

**Member organization : TRAI**