Bharti Infratel Limited

By Email / Hand

30 September, 2019

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Subject: **Consultation Paper on "Review of Scope of Infrastructure Providers Category– I (IP-I) Registration"**

Dear Sir,

This is reference to the above referred TRAI consultation dated 16.08.2019 published on TRAI website. In this regard, please find enclosed our response to the consultation paper as an Annexure to this letter.

We hope that TRAI will find the response useful and consider our inputs while finalizing the recommendations on this subject.

Thanking you.

Your sincerely
For **Bharti Infratel Ltd.**

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Encl: As above

Annexure

Bharti Infratel Comments to TRAI Consultation Paper
"Review of Scope of Infrastructure Providers Category – I (IP-I) Registration"

At the outset, we appreciate TRAI's initiative to bring out the consultation paper on aforementioned subject and extend sincere thanks for providing us an opportunity to submit our comments. TRAI vide this consultation paper has dealt on all aspects comprehensively pertaining to the enhancement of the scope of services for IP-I registration.

Preamble

In this digital age, the availability of fast and reliable digital infrastructure and communication services is imperative for the socio-economic development of the Country. The communication infrastructure and networks are considered as key enablers for the overall growth and well-being of the society. In India, the telecom sector has been expanded from voice telephony to high speed wireless data networks which are becoming instrumental in various areas including health, education, e-governance, agriculture, utility services etc. The digital payment and transactions have increased manifolds and financial inclusion to unbanked population.

IP-I players have played a significant role in facilitating these structural changes in telecom market by making available reliable and resilient passive telecom infrastructure for sharing among Telecom Service Providers (TSPs) in a non-discriminatory manner. TRAI in the consultation paper has also recognized that the IP-I player have made a remarkable contribution in the rapid growth of mobile networks and in making available affordable telecom services in India with the deployment of shared tower infrastructure.

National Digital Communication Policy 2018 – a vision to create digital infrastructure to support next generation of digital services

- The National Digital Communications Policy, 2018 (NDCP-2018) presents a positive vision for the telecom Industry and country, with the goal of creating the digital infrastructure that supports the next generation of digital services and allows India to realize the true potential of the digital economy. The vision of NDCP- 2018 is to *establish ubiquitous, resilient, secure, accessible and affordable Digital Communications Infrastructure in the Country*. Being a capital intensive nature of the Industry, the NDCP-2018, has also recognized a need of participation of large number of stakeholders and huge investments.

- To achieve the vision of the NDCP-2018 of creating a robust digital communication infrastructure, the enhancement of the scope of services of IP-I registration has been envisaged as follows -

"Encourage and facilitate sharing of active infrastructure by enhancing the scope of Infrastructure Providers (IP) and promoting and incentivizing deployment of common sharable, passive as well as active, infrastructure."

Common sharable digital Infrastructure is essential to reap optimal benefits of technological advances

- With the advent of high speed wireless data networks in India, wireless data usage per subscribers has increased multifold in a short span of two years. Now with the further technological advancements, we are swiftly moving on to even higher levels of wireless data usage with the commercial deployment of advance technologies in near future which will be applicable to an ecosystem of infrastructure devices spread across various sectors and is not just limited to smartphones. In India, as per GSMA estimates[1], 77% of the total mobile connections will be on 4G by 2025 and there will be around 88 million 5G connections by 2025. The cellular IoT connections are also predicted to reach 72 million in next five years at CAGR of 25 percent by 2023.

- While India has embarked on the journey of transition to higher technological advances along with its global peers, however, to turn the above highlighted projections into a reality, substantial investments would be required in the creation of digital infrastructure which will only be possible by creating common sharable digital / telecom infrastructure instead of duplicity of networks by Service providers. Therefore, it is vital to build a common sharable digital infrastructure (active as well as passive) to reap optimal benefits of technology advances in line with the global practices for achieving greater economic efficiencies.

Common sharable Infrastructure will bring substantial Capex and Opex savings to TSPs

- TRAI in the consultation paper has highlighted that with the technological advances, it has become possible to share active infrastructure by TSPs while still using their own allocated spectrum and separate quality of service can be maintained. With the sharable common infrastructure, TSPs will have substantial savings on CAPEX and can put more focus on better service delivery to end consumers. This can only be achieved by providing enabling environment for promoting creation of common telecom infrastructure which can be shared among all service providers in fair, transparent and non-discriminatory manner.

- The Body of European Regulators for Electronic Communications (BEREC) in its recent report[2] on Infrastructure sharing has broadly analyzed the possible cost savings and estimated

[1] https://www.gsmaintelligence.com/research/?file=ff6b12ab0f6e04939ea041bf86d299ba&download

[2] https://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/8164-berecreport-on-infrastructure-sharing_0.pdf

savings of ~ 35% in Capex and Opex on account of active infrastructure sharing (excluding spectrum) by TSPs.

IP-I Players are best suited to offer robust, resilient and affordable Infrastructure in a non-discriminatory manner

- We are of the view that the IP-I players are best suited for providing passive and active infrastructure in a non-discriminatory manner to the service providers holding any valid / license / registration from any Ministry of the Government of India including DoT/ MIB/ MeitY. This is due to the fact that IP-I players have expertise and in-depth experience in rolling out the resilient and robust telecom infrastructure across the geographies including the remotest, rural and hilly areas.

Response to Issues raised in the Consultation Paper

Q1. - Should the scope of Infrastructure Providers Category – I (IP-I) registration be enhanced to include provisioning of common sharable active infrastructure also?

Bharti Infratel Response:

- Yes, the scope of IP-I registration should be enhanced at the earliest to include provisioning of common sharable active infrastructure in addition to the passive infrastructure.

- In NDCP-2018, the enhancement of the scope of services of IP-I registration has been envisaged as key strategy to attain the goal of creating the robust digital infrastructure that supports the next generation of digital services and allows India to realize the true potential of the digital economy.

- TRAI vide its recommendations on "*Input for formulation of NTP-2018*" which were submitted to the Government on 2nd February 2018 had also recommended enhancement of scope of infrastructure providers and promoting deployment of common sharable, passive as well as active, infrastructure.

Q2. - In case the answer to the preceding question is in the affirmative, then

(i) What should be common sharable active infrastructure elements which can be permitted to be owned, established, and maintained by IP-I for provisioning on rent/lease/sale basis to service providers licensed/ permitted/ registered with DoT/ MIB? Please provide details of common sharable active infrastructure elements as well as the category of telecommunication service providers with whom such active infrastructure elements can be shared by IP-I, with justification.

Bharti Infratel Response:

India has become the highest data consuming nation in the world. As per TRAI Wireless Data Services Report[3], wireless data usage per wireless subscriber was 7.60GB/per month in the year 2018 and it is estimated to be 15GB/month in the year 2024. It is envisaged that an average 5G connection in 2022 will generate about 22GB of data per month, roughly three times more than the data generated by 4G connections. Further, it is pertinent to highlight that currently only 50% of total wireless subscribers have subscribed to wireless data services and considering the present adoption rate of data services, there is a strong possibility that majority of remaining wireless non-data subscribers will also likely to join the data bandwagon soon. In such a scenario, rapid network evolution will be required in terms of capacity and reach to cater such a huge wireless data subscriber base.

For this purpose, there is a need to evolve or deploy highly scalable sharable transport networks of bandwidth about 10G[4]/site and more number of such sites (network densification) will be required to meet desired user experience and explosive data demand. Therefore, to support the such network evolution, need to do –

a. Scaling of Transport Network
b. Densification of Network

In this space, **IP-I can play a critical role as neutral host by deploying highly scalable and resilient transport network for** sharing with all telecom service providers in a non-discriminatory basis.

a. Transport Network

- High capacity like 10G/site will be required to up-grade and change of architecture of the existing transport network.
- Scaling up intra-city transport network to facilitate 10G/site or more capacity, there will be a need of re-architect of the existing transport network for augmenting capacity and reach which in turn require huge CAPEX and increase in OPEX.
- This type of investment for network expansion will have to be carried out by all service providers leading to duplicity of networks and investment inefficiencies.
- Availability of common sharable transport network will bring more synergies among users and ensure optimal use of resources.
- The key active elements of transport network which are to be shared are switches, routers, Muxes, DWDM, EMS/NMS besides fiber.

b. Densification of Network

- To meet the exponentially growing demand of data, the network need to be densified which will lead to deployment of more number of macro sites, small cells and In-

[3] TRAI Report on Wireless Data Service in India - https://main.trai.gov.in/sites/default/files/Wireless_Data_Service_Report_21082019.pdf
[4] Gigabits per second

building solutions however, deploying new macro site in urban and semi-urban area has its own challenges.

- These challenges will increase multifold for creation of such infrastructure to cater more than one service providers on a standalone basis resulting in to delay in the network rollouts and substantial increase in the Capex and Opex.
- Further, it is envisaged that estimated power requirement of a next generation technology will be about 50% more than the present power requirement of a typical site.
- All service providers will have to undergo with this evolution to upgrade their networks and related infrastructure.
- Technical solutions are available which allows the access network to be shared among multiple licensed TSPs leading to optimization of Capex and Opex.

Similar densification is required in indoor network as well to maintain desired level of Quality of Service (QoS). The challenge of indoor coverage is expected to increase with the advent of newer technologies as penetration (indoor coverage) of high frequency bands are lower compared to the low frequency bands. Thus, there is also a need to strengthen the Indoor coverage solutions for ensuring better user experience for availability of uninterrupted high speed data networks.

Recommendations:

- In view of above explanation, since the concept of Core network sharing is still evolving globally due to various security related issues, hence we recommend that, as a first step, following network elements should be included in the scope of IP-1 registration immediately for providing common sharable active infrastructure-
    i) Antenna
    ii) Feeder cable
    iii) Base Station (eNB, gNB, Small/Micro Cells, DAS (I/D & O/D) etc)
    iv) Radio Access Network (incl. In-building Solution, Wi-Fi Access Points etc)
    v) Transmission System (Microwave & OFC)

- It is also recommended that **IP-I players being a neutral host should be allowed to share the infrastructure in a non-discriminatory manner with any valid license/registration holder from any Ministry of the Government of India including DoT/MIB/MeitY who are engaged in providing any kind of digital services to the end user** and any other service providers that may emerge in future offering communication / converged services. This will certainly enable laying out robust infrastructure for Governmental initiatives and programs like Digital India, Smart Cities, Financial Inclusion, Digital Literacy including e-Education, e-Health, Security etc.

(ii) Should IP-I be allowed to provide end-to-end bandwidth through leased lines to service providers licensed/ permitted/ registered with DoT/ MIB also? If yes, please provide details of category of service providers to it may be permitted with justification.

Bharti Infratel Response:

- In view of various ambitious programs of the Government such as Digital India, Smart Cities, Financial inclusion etc, it is recommended that **IP-I players should be allowed to provide dark fiber/leased-line to enable respective service providers to lit the bandwidth to enable the services to their respective customers.**

(iii) Whether the existing registration conditions applicable for IP-I are appropriate for enhanced scope or some change is required? If change is suggested, then please provide details with reasoning and justification.

Bharti Infratel Response:

- We are of the view that the **existing IP-I registration conditions applicable for IP-I players are sufficient even for enhanced scope of services** due to the fact that **any additional infrastructure/network element being allowed under the enhanced scope would remain 'passive' and in non-operating condition until powered by a service provider.**

- Moreover, as IP-I players are not providing services to the end customer/subscriber directly, we do not feel the need of any further regulatory obligation.

(iv) Should IP-I be made eligible to obtain Wireless Telegraphy Licenses from Wireless Planning and Coordination (WPC) wing of the DoT for possessing and importing wireless equipment? What methodology should be adopted for this purpose?

Bharti Infratel Response:

- The role of IP-I players is to create underlying common communication infrastructure (active as well as passive) for the purpose of sharing among all service providers licensed/ permitted/ registered with DoT/ MIB/ any other Govt. Department or Ministry. Therefore, **IP-I players should also be made eligible to obtain Wireless Telegraphy Licenses from WPC wing to possess and import wireless equipment on the same terms & conditions as applicable to the service providers.**

- However, as also envisaged in NDCP-2018, process for obtaining WPC import license needs to be further simplified to facilitate and incentivize investment for faster rollout/expansion of telecom infrastructure/network.

(v) Should Microwave Backbone (MWB) spectrum allocation be permitted to IP-I for establishing point to point backbone connectivity using wireless transmission systems?

Bharti Infratel Response:

- It is recommended that IP-I players should be allowed to own and install non-radiating Microwave antennas and related equipment enabling licensees / service providers to establish point-to-point backbone connectivity.

Q3. - In case the answer to the preceding question in part (1) is in the negative, then suggest alternative means to facilitate faster rollout of active infrastructure elements at competitive prices.

Bharti Infratel Response: Not Applicable in view of our response to Question No 1 & 2 above.

Q4. - Any other issue relevant to this subject.

Bharti Infratel Response: We request TRAI to support in following related issue -

(i) **Open Access to Renewable Electricity**

- Next generation telecom technologies will have more electrical power consumption due to increase in capacity and increase in number of sites.
- IP-I should be allowed to avail the benefit of open access in electricity distribution.
- Cumulative electrical load for an IP-I is suggested to be considered for each State for applicability of open access.
- Gross metering enablement i.e. total consumption of all IP-I sites be compensated against renewable generation at all sites so that site demography issues be taken care off.
- Transparent, systematic approach towards net metering and Open Access to be established ensuring ease of doing business.

IP-I player should be allowed to reap the benefit of open access in electricity distribution. Transparent, systematic approach towards net metering and open access to be established to create a win-win proposition.