Response to
TRAI Consultation Paper
on
In-Building Access by Telecom Service Providers

I. Preamble:

1. We welcome this consultation by the Authority and this is a step in the right direction to enable the spread of Telecommunication in India.

2. The telecom is a key driver of economic and social development in an increasingly knowledge intensive global scenario. **The proof of this lies in various studies which have acknowledged that an increase in mobile internet and internet penetration has been a key factor for economic growth of the country.**

   a. As per an **ICRIER study,** Indian States with higher mobile penetration grow faster, and for every 10% increase in mobile penetration, growth in GDP increases by 1.5 percentage points. The impact of internet penetration is similar; in India, for every 10% increase in the number of internet subscribers, growth in output is estimated to increase by 1.08 percentage points.[1]

   b. Further, according to a **World Bank** report a 10% increase in broadband penetration raises the GDP of a country by 1.48%.

3. However, the internet penetration has reached just around 26 percent in India (as per the figures released by TRAI in December, 2015). The broadband penetration is just about 10 percent (till December, 2015). This implies that there is a huge scope for the growth of internet and broadband in India. The cellular networks have been the backbone of broadband services in India and to meet the national broadband objectives and the corresponding contribution to economic development, there needs to be a focus on coverage, capacity and quality, which includes inter alia, deployment of in-building solutions.

4. The success of programmes such as Digital India and Smart Cities relies heavily on the underlying telecommunication infrastructure for providing reliable and fast connectivity to devices and users. The new high rise residential / commercial complexes in upcoming smart cities **and integrated townships should be mandated to be common telecom infrastructure ready at the time of completion of the construction to cater telecommunication needs of the consumers at affordable price**. It is recommended that in-building access solutions for telecom installation

[1] Kathuria, and Kedia Jaju (2011), India: The Impact of Internet

should be included as one of the criteria for selection of the smart city by the Government for financial assistance.

5. **Role of In-Building Access:**

a. The need for reliable voice and data communications does not stop at the door of a building. Providing good in-building coverage plays an important role in attracting and retaining mobile subscribers as people spend most of the time inside the buildings. Ordinarily, coverage from the macro network extends into buildings but this sometimes needs to be complemented by dedicated in-building solutions to improve the Quality of Service and for increasing the capacity of the network. Also, crowded areas like malls, airports, large commercial complexes need a dedicated system to handle the capacity requirements for large number of calls at such locations. The two ways to provide in-building coverage are:

i. Outside In – Using existing macro cell sites to optimize indoor coverage or adding more sites for capacity addition. Operators have heavily relied on this approach so far in India. While this approach ensures a hassle free experience for many users, but with variation in building material & size the connectivity can be ensured only on a Best Attempt scenario.

ii. Dedicated In-building solutions; where customers get connectivity through some dedicated access points located within the building. Most evolved markets already have an extensive deployment of in-building solutions which help provide uniform & superior service experience.

b. Mobile networks were first conceived and dimensioned primarily to serve voice traffic, which continues to remain the fundamental requirement. However, there is also a need to cater to the increasing requirements for high performance and capacity for data, which has led operators to invest in network modernization and adopt new technologies such as HSPA and LTE. The process of increasing performance and capacity with heterogeneous networks involves three discrete steps: improving, densifying and complementing the macro layer by adding low power nodes such as micro, pico and indoor solutions. Thus, in-building solutions offer following advantages:

i. **QOS improvement**: The presence of In-building solutions, improves the QoS for voice and data services where the coverage does not adequately extend indoors.

ii. **Capacity:** Commercial buildings need dedicated systems to handle capacity requirements with respect to voice and data. In-building solutions can help in handling any surge in voice traffic and help to offload the macro sites. It is estimated by Cisco, the mobile data traffic in India will reach 1.7 Exabytes per month by 2020 (the equivalent of 430 million DVDs each month), up from 148.9 Petabytes per month in 2015.

6. **Present Challenges:**

a. As pointed out in the consultation paper by the Authority, several deterrents are posed by the building owners that prevent the telecom operators from extending the reach of telecom services at important public places through In-building solutions.

i. **Denial of permission by building owners:** It is difficult for the Industry to obtain permission for setting up sites in the commercial and public buildings. The deployment is often hindered by building owners/building developers delaying the negotiations. Further, building owners charge exorbitant rates from TSPs for providing the space and essential services such as electricity supply. As TSPs cannot leave public places like airports/railway stations uncovered, they are forced to enter into agreements at unilateral and exorbitant terms set by the other parties. Such restrictive practices take away the choice and flexibility from consumers.

ii. **No policy for in-building deployment of sites on Government Land/ Buildings/airports shopping malls, hospitals, etc.:** Lack of enabling policy in respect of deployment of in-building solutions in key public buildings/areas has led to coverage gaps thereby leading to incidences of poor signal quality. In its Recommendations on "*Telecommunications Infrastructure Policy" dated April 12, 2011*", TRAI had recommended that

- DoT should advise all ministries to provide, within a year, IBS/DAS solutions in all Central Government buildings including central PSU buildings, Airports and buildings falling under their jurisdiction & control.

- All State Governments should be advised to provide/mandate, within a year, IBS/DAS solutions in all buildings including hospitals having more than 100 beds and shopping malls of more than 25,000 square feet super built area.

Though some steps are being taken by Government/DoT on these lines, more concrete plan/roadmap is required in this regard.

iii. Fear of EMF among the people further deters the deployment of telecom infrastructure in buildings such as residential societies.

iv. The laying of cables inside the buildings becomes a challenge in absence pre-installed ducts.

7. **Efforts made by Telecom Service Providers:**

Despite, the challenges listed above, following efforts have been made by TSPs to improve the services in the country:

a. Roll out of the 3G and 4 G network i.e. offloading the traffic from 2G networks and optimised hand-offs between 2G,3G & 4G sites.

b. Reached out to customers, seeking their help to identify areas where they face QoS related issues and their suggestions on setting up mobile cell-sites.

c. Offloading of the traffic to Wi-Fi

d. Installation of IBS and Small cells for improving indoor coverage wherever it is possible to obtain permission

e. Augmentation of existing RF resources.

f. Various other Continuous Optimization efforts

Therefore, this consultation paper comes at a right time to address the concerns regarding In-building access as Telecom is an essential service and space/ infra for providing telecom service should be made available at priority.

In light of the above, our suggestions on the issue are as below:

1. **Building Code**: It should be made mandatory in the Building Code that the new buildings should be constructed in such a way that they are 'Telecom Infrastructure deployment' ready by creation of one time infrastructure such as ducts, common area for telecom facilities, network access points etc.

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a. The TSPs should be given legal rights to use the common telecom infrastructure within a building and its premises free of charge just as other essential services like water and electricity.

b. New buildings and the building undergoing major renovation should be given Completion Certificate only after they submit compliance on provision of Common Telecom Infrastructure.

c. The respective circle TERM cells can be made responsible for approving the common telecom infrastructure facilities to be created within the building and secondly, to provide the 'Telecom Infrastructure Completion Certificate' to the building.

2. **Public Buildings:**

a. For all buildings and facilities used/accessed by the public for general purposes, whether Government owned building or building based on PPP (Public Private Partnership) model, such as airports, railway stations, Central and State Government offices, Government residential housing complexes, Government hospitals, shopping complexes**, it should be made mandatory to grant permission to TSPs to install in-building telecom infrastructure.**

b. A single online window to be created for the required approvals for the aforementioned public buildings.

c. The permission & conditions for the installation of telecom infrastructure should be granted on a non-discriminatory basis to all TSPs.

d. **The permission to install telecom infrastructure should be granted to TSPs only.**

3. **Private Buildings**: There is no regulatory intervention required for the existing Private Buildings as TSPs have invested sufficient CAPEX/OPEX based on their business viability.

4. For **sharing the infrastructure,** the commercial terms and conditions for both Existing and New buildings should be left to mutual agreement as any mandate on this will increase inefficiency in the system.

5. Mandating the **availability of power** at the Government regulated industrial rates to avoid any arbitrariness and indulgence in anti-competitive practices by the building owners.

II. Query Wise Response:

Q1. Do you agree that there is a need to address the issues discussed in this consultation paper or the market is capable of taking care of these issues without having any policy intervention/guidelines in this regard?

COAI Submission:

1. Since the installation of in-building solutions has been facing challenges, there is an urgent need to address the issue through Government intervention. The in-building solutions compliment outdoor coverage, therefore there is a need to make policies that will facilitate the installation of in-building solutions.

2. **Public Buildings:**

   a. In all buildings and facilities used/accessed by the public for general purposes, whether Government owned building or building based on PPP model, such as airports, railway stations, central and state Government offices, Government residential housing complexes, hospitals, shopping complexes, it should be made mandatory to grant permission to TSPs to install in-building telecom infrastructure

   b. A single online window to be created for the required approvals for the aforementioned public buildings.

c. The permission & conditions for the installation of telecom infrastructure should be granted on a non-discriminatory basis to all TSPs.

d. The permission to install telecom infrastructure should be granted to TSP only.

3. **Private Buildings**: There is no regulatory intervention required for the existing Private Buildings as TSPs have invested sufficient CAPEX/OPEX based on their business viability.

Q2. How can sharing of telecom infrastructure inside a residential or commercial complex/airport/hotels/multiplexes etc. among service providers be encouraged? Should the sharing of such telecom infrastructure be made mandatory?

COAI Submission:

1. As pointed out earlier, it is important for telecom service providers to have mobile coverage / network presence inside big residential / commercial complexes and the sharing of the infrastructure should be encouraged among the TSPs.

2. **However, the sharing of the infrastructure in the building should be left to the mutual agreements between the TSPs** as there are various technical complexities involved in the installation of In-building infrastructure.

3. These complexities can be best dealt by having mutual agreements between TSPs for the cases wherever it is possible to share the infrastructure considering the ease, feasibility and cost of deployment.

Q3. In view of the international practices given in para 18-23 of Chapter-II of the Consultation Paper, what provisions should be included in the National Building Code of India to facilitate unhindered access for all the TSPs?

COAI Submission:

1. As highlighted earlier, it is important for the operators to extend the coverage in the buildings but currently various impediments are imposed by the building owners which slow down the speed of deployment of In-building infrastructure. Therefore, the following steps should be taken in order to address the situation:

   a. It should be made mandatory in the Building Code that the buildings are constructed in such a way that they are 'Telecom Infrastructure deployment' ready by creation of one time infrastructure such as ducts, provision of space and electricity supply etc.

   b. The permission and conditions for the installation should be granted on a non-discriminatory basis to all TSPs.

c. The permission to install telecom infrastructure should be granted to TSP only.

d. Further, as highlighted in the consultation paper, the common infrastructure required such as ducts or path for laying the cables should be pre-installed or provisioned, provision should be made for common space and electricity supply for installation of telecom equipment so that the buildings are 'Telecom Access' ready. This would speed up the pace of deployment and bring down the cost considerably.

e. The adoption of best practices as highlighted in point 'd' would ensure that no disturbance or inconvenience is caused to people in places such as hotels, hospitals or residences etc. during the installation or maintenance of the equipment.

Q4. Any other option, which in your view, could resolve the issues discussed in this consultation paper? Please explain and justify your opinion on all the above questions.

COAI Submission:

1. The restrictive policies of local bodies that prevent development of backhaul infrastructure for extending the connectivity to the premises too need to be simplified for arriving at a holistic solution to this vexed problem.

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