Annexure A

Idea Cellular Response
to
TRAI Consultation Paper
On
In-Building Access by Telecom Service Providers

Preamble:

A. Idea Cellular welcomes the opportunity to contribute to the consultation on the provision of In-Building Solutions for seamless mobile communication services inside buildings. Idea Cellular would also like to thank the Authority for its interest in finding improved ways to enable the TSPs to offer superior services to their customers located in such buildings.

B. Traditionally, 2G mobile services have been provided mainly by installing macro sites mounted on mobile towers infrastructure. However, with the increase in usage for both voice and data services, the macro cells are not proving adequate to provide seamless and good quality service inside the buildings. For providing coverage and capacity in some of the large public / commercial places like malls, airports, hotels, hospitals and enterprise offices, etc., we have already taken steps & implemented in-building solutions at various locations.

C. Operators currently offer services in various in sub GHz and > 1 GHz bands. It is seen that in case the usage spectrum falls in the > 1 GHz band, it generally creates a challenging situation, as on one hand, the power radiation of the macro sites needs to be high to avoid signal loss inside the buildings, while on the other hand, the stringent EMF radiation norms need to be complied. Further, when the macro cells radiate at higher power from outside the building, it often results in smaller cell size and inter cell interference.

D. **In that context, In-Building Solution (IBS) is a solution that can help overcome this challenge to a large extent, as by offloading traffic from macro cell networks, in-building solutions ensure a higher voice quality of service with fewer dropped calls.**

E. It is also pertinent to mention here that India is now poised to see rapid growth in data services on account of massive 3G and 4 G rollouts and adoption of data, as prices of smart phones increasingly approach affordable levels. Further, as the industry evolves to its next level, most networks are now made up of 3G based services and are increasingly migrating towards 4G based services. However, In-building cellular enhancement systems designed for catering to 2G services, or primarily voice-based services, may not be sufficient to support data services, since signal strength and signal quality specifications become more stringent once the applications move from a voice-centric paradigm to a high speed data-centric paradigm. Since most 3G & 4G networks in Indian market are using the higher frequency spectrum bands, it further enhances the need for solutions for in-building scenarios.

F. Further, with the advent of smartphones and smart devices, the user expectations towards mobile broadband have also stepped-up, and a different era of connectivity has taken over the scene. People today rely on mobile applications, video content and OTT services heavily in their daily lives. This has resulted in, on the one hand, an increased demand on the already scarce spectrum and, on the other hand, an enhanced requirement of provision of seamless services anytime &

anywhere, especially inside the buildings. Thus, easy access to information whenever and wherever, as well as the seamless functionality of mobile applications, are becoming the new cornerstones for evaluating any end user experience, implying thereby that the service providers are required to augment their network coverage inside the buildings to provide low latency, high speed network.

G. It is thus evident that there would be growing demands to install optimal solutions such as IBS for providing ubiquitous coverage, improve spectrum utilization and provide quality of service as well as better subscriber experience.

H. However, as rightly noted in the Consultation Document, there are multiple impediments to it, such as where an infrastructure group/ builder enters into exclusive agreement with one of the TSPs for providing telecom services to the consumers living / doing business from a particular location / building / society / commercial complex, or a building owner only allows one or selected TSPs to install the 'In-Building solutions' (IBS) system in its building /premises and this TSP(s) subsequently does not allow others to share its / their IBS, or demands prohibitively high prices for sharing its / their IBS. In many instances, it is also seen that the building owners allow access to the TSPs only at exorbitant rates. Further, it is seen that presently there are restrictions on deploying IBS at Government-owned locations that require going through the process of time-consuming & often cumbersome approvals. Similarly getting permissions for installation of In-Building solutions at places such as schools and hospitals is difficult because of the alleged health hazards

I. In view of the above, the main issues for consideration can thus be categorized as:

i. <u>Generic:</u>

a. **Restrictions imposed by State Governments and Municipalities:** Currently, there are too many restrictions and exorbitant charges imposed by State Governments and Municipalities for erecting cell-sites in non-commercial areas.
b. **Difficult and complicated Approval procedures:** Stringent conditions imposed by various civic authorities for erection of towers have made the procedure difficult and complicated. Clearances are required to be taken from multiple agencies such as advance clearance from resident welfare associations (RWAs) in case of residential areas, safety certificate, clearance from pollution control authorities and fire authorities, thereby leading to huge delays in implementation of solutions.
c. **Fear of EMF:** Baseless fears amongst the masses about radiations hazards from towers and mobility solutions have acted as deterrents for deployment of telecom infrastructure in the buildings, particularly, residential societies.
d. **Absence of Ducts and Conduits in Buildings**: In the absence of such pre-installed infrastructure in Buildings, it becomes extremely difficult for IP-1 / Infrastructure providers / Telcos to provide fitments inside Buildings.
e. **Artificial Restrictions:** Various artificial restrictions exist in case of sites such as those belonging to educational institutions, hospitals, forest lands, historical & archaeological protected areas / heritage areas, security related and those of environmental importance.

ii. <u>For Government Owned / Public Buildings</u>:

a. **No policy for deployment of sites on Government Land / Buildings / Residences and in Defence / Cantonment areas:** Currently, there is no enabling policy in respect of deployment of Antennas / BTS on Government land / buildings / residences and Defense establishments that leads to coverage gaps.

iii. **<u>For Private Buildings</u>:**

a. **Exorbitant charges for grant of permission:** Building owners charge exorbitant rates from TSPs / IP-1s for providing the space and essential services such as electricity supply.
b. **Unwarranted Delays:** Deployment is often hindered by building owners/building developers delaying the negotiations.
c. Discriminatory treatment: Building owner often allow only one or selected TSPs to install the 'In-Building solutions' (IBS) system in its building/premises.

Naturally, these impediments result in increased costs, delayed investments, higher roll out time and poor quality of service for mobile services.

J. In addition, it needs to be appreciated that today telecommunications is a basic need just like water, electricity or road. Infrastructure development plays a crucial role in building a robust telecom network, and buildings need to be an integral part of it. Since communication has now become the basic need of every one, necessary infrastructure to fulfill this requirement needs to be created in all planned and under-construction buildings, even in semi-urban/rural areas.

K. Therefore, there is an urgent need to streamline the options and procedures within the legal framework, address all possible impediments to in-building rollouts, and come up with a <u>national policy on In-Building Solutions</u> to facilitate faster growth of telecommunication services in the country. Such a policy should have a single legal framework for the entire country, and needs to be applicable to in-building deployments across all categories of Buildings – existing as well as under-construction, public as well as private. A uniform Guideline, applicable on a Pan-India basis, shall thus be an excellent initiative towards bringing about improvements in Indoor Network coverage and QoS.

L. Idea Cellular would thus like to suggest as follows:

i. IBS Telecom Infrastructure such as ducts, conduits, space, etc. should be defined as a basic amenity, at par with Water supply, Electricity and Gas connection, for any new building approved. Thus it should be made mandatory in the Building Code that buildings are constructed in such a way that they are 'Telecom Infrastructure deployment' ready.

ii. It is critical that public places such as Airports and Railway Stations, Metro Stations, Inter-State Bus Terminals, High Rise / Underground Public Parking, etc. should not be allowed to treat IBS provisioning as a means of revenue generation. Zero rental options will encourage TSPs to provide proper and exhaustive in-building coverage. Cost Plus model should be followed for recovering the investment & operational cost to provide the infrastructure for IBS.

iii. For all buildings and facilities used/accessed by the public at large, whether government owned buildings or commercial buildings, Airports, Hotels, Residential Complexes, Railway Stations, Central and State Government Offices, Enterprise Offices, Government residential housing complexes, Malls, Hotels, Hospitals, Shopping Complexes, etc., it should be made mandatory to grant permission to TSPs /IP-1s to install telecom infrastructure. In any case, all TSPs/IPs should get access in all Government Buildings/ Properties/ Defence Locations.

iv. The permission to install telecom infrastructure should be granted to TSPs /IP-1s only, and on a non-discriminatory basis.

v. **If a TSP wants to provide the coverage in a building through in-building access where telecom infrastructure is already deployed by some other TSP/IP-1 but the sharing of existing infrastructure is not possible due to any reason, then that TSP should also be allowed to install its infrastructure in the building.**

Considering our above submissions, below is our Issue wise response:

1. **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?**

Idea Response:

i. As mentioned earlier, In-building solutions complement the outdoor coverage and thus ensure high quality of service inside the building and better performance in terms of capacity and consistency. IBS is thus one of the key options for commercial complexes, residential complexes and high rise buildings.

ii. **Idea Cellular would like to submit that Policy intervention / Guidelines are thus needed as the market driven mechanism is not able to resolve the in-building access related issues faced currently.**

iii. As rightly noted in the CP, it is seen that there are multiple impediments to IBS deployments, such as where an infrastructure group/ builder enters into exclusive agreement with one of the TSPs for providing telecom services to the consumers living / doing business from a particular location / building / society / commercial complex, or a building owner only allows one or selected TSPs to install the 'In-building solutions' (IBS) system in its building/premises and this TSP(s) subsequently does not allow others to share its/their IBS, or demands prohibitively high prices for sharing its/their IBS. In many instances it is also seen that the building owners allow access to the TSPs only at exorbitant rates. For instance, an Airport Operator or a mall owner may charge high recurring price from the TSPs for deployment of In-building solution. As TSPs cannot leave such places uncovered from their mobile network they are forced to enter into agreement at the terms set by the other party.

iv. Further, it is seen that presently there are restrictions on deploying IBS at Government owned locations that require going through the process of time-consuming and often cumbersome approvals. Similarly getting permissions for installation of In-Building solutions at places such as schools and hospitals is difficult because of the alleged health hazards.

v. **To address such possibilities effectively, it is critical that a proper policy framework aimed at removing all possible impediments is established at the very earliest. Thus, uniform guidelines, applicable on a Pan-India basis, shall be an excellent initiative to improve Indoor Network coverage and QoS.**

vi. There is also a need to look at meeting the necessity of unified DAS arrangements to support all bands which can be shared by all TELCOS on an Opex model (Rental based) structure.

Smooth and Transparent MSA between OPCOS and owner/ authority for faster IBS deployment would also be required.

2. **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?**

Idea Response:

i. **Sharing of the telecom infrastructure in large public places like Airports, Commercial complexes, hotels, multiplexes, large residential complexes, etc. to provide In-building solutions needs to be mandated**. While this will ensure availability of services from all operators, it will also lead to avoidance of duplicate infrastructure and cost reduction.

ii. Airports and public places like Railway Stations, Metro Stations, Inter-State Bus Terminals, High Rise / Underground Public Parking, etc. should not be allowed to treat IBS provisioning as a means of revenue generation. **In that context, Zero rental options will serve to encourage proper and exhaustive in-building coverage. A Cost Plus model could be followed for recovering the investment & operational cost to provide the infrastructure for IBS.** Common DAS platform to support all bands from 700-2600 MHz need to be developed so that even a new operator or new spectrum band, that gets released, can be accommodated by sharing the same DAS.

iii. **However, the terms and conditions of sharing of infrastructure in the building should be left to mutual negotiations between TSPs/IP-1s as there are various complexities involved in installation of in-building infrastructure which can only be dealt on a case to case basis.** For example, the cost of installing antennas which support multiple bands / multiple operators using different technologies / equipment / MIMO is more than the cost of those that do not support such features. Further, equipment such as these might not be of use for every service provider as operators might use different solutions/technology depending on their individual requirements and business case.

iv. It also needs to be kept in consideration that at the time of initial installation of infrastructure/equipment by the first TSP/IP-1 who gets a space in Building, there may be no clarity about who amongst the other operators would in the future want to offer services in the same building, as this would essentially depend on the network coverage strategies of individual operators. Thus, in case, other operators eventually don't turn up to offer their coverage through the In-Building infrastructure installed by the first occupant, the TSP/IP-1 that has installed that equipment would have no other option but to bear loss on account of the extra cost incurred in installing equipment that supports multiple technologies/features or for making provisions for the use of infrastructure by multiple operators. Complexities, such as these, can be best dealt by TSPs/IP-1s cost-effectively, by having mutual agreements for cases where it is possible to share the infrastructure.

v. Further, the deployment of DAS and in-building solutions necessitate laying of optical fibre cable for back hauling the nodes. The building authorities should be given the responsibility to lay ducts to the building and facilitate sharing of these ducts with operators. **However, individual operators should have the choice to provision IBS solution based on their own business case**.

vi. It is also recommended that telecom infrastructure providers come up with a standard MSA which can be shared with concerned authorities and OPCOS for IBS deployment.

3. 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?

Idea Response:

i. The tremendous growth of telecommunication in recent years coupled with its capabilities to deliver a host of other services like e-health, e-education, e-commerce, entertainment and a number of other applications have made telecommunication a basic need like water, electricity or road. Infrastructure development plays a crucial role in facilitating a robust telecom network, and buildings need to be an integral part of it. Since communication has now become the basic need of every one, necessary infrastructure to fulfill this requirement needs to be created in all buildings, even in semi-urban/ rural areas. It is recommended that we should accordingly incorporate various clauses for telecom infrastructure as part of the National Building Code.

ii. Some recommendations that need to be part of the National Building Code are:

a. For all the New buildings planned

- IBS Telecom Infrastructure such as ducts, conduits, space, etc., should be defined as a basic amenity, at par with Water supply, Electricity and Gas connection, for any new building approved. In this context it is also pertinent to mention that the TRAI vide its Recommendations of April 2011 on "Telecommunications Infrastructure Policy" had recommended that telecom infrastructure be treated as an essential infrastructure. Thus local bodies should make it mandatory to facilitate IBS inside the buildings while approving / clearing the construction of new facilities, such as multiplexes, malls, hotels, and recreational facilities etc., and take an undertaking from identified service provider to ensure execution of IBS in such facilities.
- The Building plan being submitted for NOC with the Approval Authorities should contain drawings / specifications of IBS Infrastructure installed by a Solution provider.
- Telecom infrastructure like cables, OFC etc. as well as Ducts & false ceiling necessary for routing cables need to be provisioned by the builder at the time of construction.
- There shall be not be allowance of any exclusivity for Telecom operators on offering of IBS solutions in buildings.
- Cost Plus basis rental charges (*for Initial Investment + Routine Operations*) may be allowed to be charged by the Building Owners/Management from TSPs for using the infrastructure provided.
- Access to authorized personal from TSPs needs to be provided for performance of operational activities.
- Space for the installation of BTS, Power plants etc. as applicable should be earmarked to facilitate "Plug & Play" scenario. This area requires 24x7 access for any emergency or routine maintenance activity.

b. For all the existing large public buildings

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 below-mentioned steps need to be taken in order to address the situation for all buildings and facilities used/accessed by the public at large, whether Government-owned buildings, Commercial buildings, Airports, Hotels, Residential Complexes, Railway stations, Central and State Government Offices, Government residential housing complexes, Malls, Hotels, Hospitals, Shopping complexes, etc.:

- The provisioning of IBS solutions needs to be mandated with a timeline for the same kept at two years, i.e., the common infrastructure required such as ducts or path for laying the cables should be provisioned, earmarking should be done 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 concerned costs considerably.
  If required, Property Tax rebates can also be considered for such Residential / Commercial properties to promote investments in telecom infrastructure.
- Further, grant of permission to TSPs/IP-1s for installation of telecom infrastructure should be made mandatory. In any case, all TSPs/IPs should be allowed access in all Government Buildings/ Properties/ Defence Locations.
- The permission to install telecom infrastructure should be granted to TSP/IP-1 only, and on a non-discriminatory basis.
- If a TSP wants to offer coverage in a building through in-building access where telecom infrastructure is already deployed by other TSP/IP-1 but sharing of existing infrastructure is not possible for any reason, then that TSP should also be allowed to install its infrastructure in the building.
- Access to authorized personal from TSPs /IP-1s for performing Operational activities should be available 24x7.

4. Any other option, which in your view, could resolve the issues discussed in this consultation paper?

Idea Response:

We reiterate:

I. Provisioning of In-building coverage should not be allowed to become a means of commercial gain for the builder / landlords/ building owners / RWAs.
II. The cost for offering of In-building solution should be limited to a Cost plus model***.***
III. Sharing of infrastructure is essential to avoid duplication of infrastructure and reduction of costs.

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