Consultation Paper No. 14/2016 dated 13th July 2016

Consultation Paper on Proliferation of Broadband through Public Wi-Fi Networks

1. Are there any regulatory issues, licensing restrictions or other factors that are hampering the growth of public Wi-Fi services in the country?

Response:

Wi-Fi is one of the technology used to provide Internet Access services to the end consumers in India. As on date, the provision of Internet Access services by any entity can be done only after it obtains ISP license or becomes a VNO or a Franchisee of an ISP. The provision of Internet Access, through Wi-Fi by any entity who is not an ISP, is a case of resale of services which would necessarily require VNO ISP license. Apart from the licensing issue as aforesaid, there is very important issue of the concerns in respect of national security which come in the way of provision of licensed Internet Access services by the unlicensed entities which need to be taken in to account and tackled with.

Apart from the challenges above some of the other issues which are being faced in provision of public Wi-Fi services are as follows:

a. ROW / Installation of Pole
b. Open Area for Coverage/ Right Area for coverage
c. Internal wiring/ cable routing
d. Power for Equipment
e. Floor plan for better planning and deployment
f. Permissions from various agencies
g. Availability of Backhaul
h. Physical Security of the infrastructure (in idle time)
i. Coverage/ speed issues

2. What regulatory/licensing or policy measures are required to encourage the deployment of commercial models for ubiquitous city-wide Wi-Fi networks as well as expansion of Wi-Fi networks in remote or rural areas?

Response:

The Government has already introduced the UL-VNO license regime under which the commercial models for deployment of ubiquitous city-wide Wi-Fi networks as well as expansion of Wi-Fi networks in remote or rural areas can be done by the entities who are aspiring to enter in to this line of business. In order to encourage deployment of Wi-Fi networks across the country, the license fee on internet access services should be waived off at least for a period of five years for the ISP licensees as well as for the Wi-Fi providers. This would result in affordable services by Wi-Fi service providers and would also reduce the input cost for the Wi-Fi service providers. Second policy measure could be to reduce the import duty on the Wi-Fi equipment or make a duty free for a period of five years.

3. **What measures are required to encourage interoperability between the Wi-Fi networks of different service providers, both within the country and internationally?**

Response:

Interoperability between the Wi-Fi networks of different service providers, both within the country and outside, is a technical and commercial issue. Over a period, organizations like WBA and Wi-Fi Alliance have developed Wi-Fi roaming framework across various Wi-Fi networks globally. With the increase in the proliferation of the Wi-Fi networks and services in the country, the Wi-Fi roaming providers will be able to find a viable business case for offering their services to the Indian Wi-Fi providers. Thus the growth in the Wi-Fi networks is one of the essential pre-requisite for encouraging inter-operability between the Wi-Fi networks of different service providers. One of the major access providers in India has based its BWA services strategy on proliferation of Wi-Fi services while surrendering its BWA spectrum. Whether such access provider or even others would agree for roaming arrangement with other service providers is an issue which is left to the commercial considerations of those service providers.

4. What measures are required to encourage interoperability between cellular and Wi-Fi networks?

Response:

Efforts are already on for working out a framework to facilitate Wi-Fi roaming and Wi-Fi data offloading by 3G/BWA – LTE networks by WBA, GSMA collaboration. The interoperability between cellular and Wi-Fi networks will result in better cellular Voice and Data services and needs to be encouraged.

5. Apart from frequency bands already recommended by TRAI to DoT, are there additional bands which need to be de-licensed in order to expedite the penetration of broadband using Wi-Fi technology? Please provide international examples, if any, in support of your answer.

Response:

The value of license –exempt spectrum in bridging the digital divide has been demonstrated through community wireless networking projects as well as inexpensive ITES (IT enabled services) operating on unlicensed spectrum that have been created to spread connectivity to digitally-marginalized areas. As demonstrated by numerous case studies, such networks administer e-learning, e-commerce, telemedicine, e-agriculture, and many other initiatives that lead to equitable social and economic growth, making unlicensed spectrum a "public good".

The International Telecommunication Union (ITU), European Union telecom regulatory bodies, as well as leading state telecom policy makers and regulators such as the FCC (U.S. Federal Communications Commission) and OFCOM (UK Office of Communications) have recognized that the optimal use of radio spectrum is dependent on flexible spectrum management policies and the multi-time sharing of this precious resource.

Of late, the relevance of license –exempt spectrum is being recognized by policy makers in India as well. This is evident from the National Telecom Policy 2012 recognizes the need to reserve more frequencies for unlicensed use. However, the country is still behind when compared to unlicensed spectrum availability in the U.S. and UK which have already integrated

innovative spectrum management techniques in their telecom policies. These policies aim to create a flexible, market-driven approach to spectrum regulation and management through integrating spectrum sharing techniques and meeting the industry demand for unlicensed spectrum. India needs to follow suit in order to provide connectivity to remote/rural regions and encourage further innovation in the telecom domain. Therefore, additional frequencies should be freed up for unlicensed use according to demands from community groups, industry bodies, and experts in the field, in line with international best practices. One of the reasons for this request is that the existing 50 MHz of licence-exempt spectrum in the 5.7 GHz band has become choked up as many ISPs switch to providing services using these unlicensed frequencies. The situation is the same in the case of the 2.4 GHz band, which has become overloaded due to the unavailability of more unlicensed spectrum.

The bands which could be considered for de-licensing are 2.483-2.5 GHz, 2.7-2.9 GHz apart from E and V band which have recommended for light regulation by TRAI in its latest recommendations on Microwave and Backhaul spectrum. Frequencies in the 5.15 GHz-5.35 GHz bands, as well as 5.725-5.775 GHz bands are unlicensed for indoor use only. These bands should be unlicensed for outdoor use as well in order to facilitate the creation of wider wireless communication networks and the use of innovative technologies. Making available license exempt spectrum for provision of wireless access would enable the investment and services from the ISP community in a big way. This would give a strong impetus to the proliferation of broadband services in the country.

Additionally, we would like to submit the following:

a. Given the paucity of available fiber in the country and the high cost and time to deploy the optical fiber it is required that existing de-licensed band of 5.825 to 5.875 GHz be deployed as backhaul for Wi-Fi zones by increasing its maximum EIRP from present 36 dBm to 55 dBm.

b. Current de-licensing in India is different from ITU T & Worldwide norms in ISM bands; we should align ourselves with ISM Bands. In 5.8 GHz band only 50 MHz have been de-licensed vs 120 MHz available in all other countries. This will bring in economies of scale.

c. Most of the countries have already unlicensed 60 GHz band and this band has a good device ecosystem, India should also delicense 60 GHz band immediately spd make it available for consumers. 60 GHz band is also known as WiGig band (Wi-Fi at 60 GHz) using IEEE

802.11ad protocol. At present dual band WiFi in 2.4 GHz and 5 GHz spectrum bands is deployed for WiFi. Now tri band WiFi chips are available and shortly tri band WiFi routers devices shall be also available in India. 60 GHz Band is already license exempt spectrum band in countries like USA, UK, Australia and Japan.

6. **Are there any challenges being faced in the login/authentication procedure for access to Wi-Fi hotspots? In what ways can the process be simplified to provide frictionless access to public Wi-Fi hotspots, for domestic users as well as foreign tourists?**

Response:

For the foreign customers, the OTP should be allowed to be sent on the foreign mobile number and services should be allowed on the same basis as roaming services are allowed. Additionally, a framework for Wi-Fi roaming should be developed on the similar lines as for mobile roaming. The validity period for temporary login credentials need to be clarified by DoT for the adhoc customers. Digital CAF is another idea which can be implemented based on the Aadhar Card since it can be electronically verified by the public Wi-Fi provider.

7. **Are there any challenges being faced in making payments for access to Wi-Fi hotspots? Please elaborate and suggest a payment arrangement which will offer frictionless and secured payment for the access of Wi-Fi services.**

Response:

There is no direct evidence in the public domain as on date that there are any challenges being faced by the customers in making payments for getting access to Wi-Fi hotspots.

8. **Is there a need to adopt a hub-based model along the lines suggested by the WBA, where a central third party AAA (Authentication, Authorization and Accounting) hub will facilitate interconnection, authentication and payments? Who should own and control the hub? Should the hub operator be subject to any regulations to ensure service standards, data protection, etc?**

Response:

Hub based model as suggested by WBA is a market phenomena which should not be brought through regulation. The national security implications in respect of third party authentication, accounting and authorization needs to be carefully deliberated upon before introducing a new type of service and service provider. It goes without saying that any such hub operator will have to be subjected to the licensing and regulatory regime of the country.

9. **Is there a need for ISPs/ the proposed hub operator to adopt the Unified Payment Interface (UPI) or other similar payment platforms for easy subscription of Wi-Fi access? Who should own and control such payment platforms? Please give full details in support of your answer.**

Response:

The use of unified payment interface or any other payment platform should be left to the option of the service provider and the market forces. In respect of hub operator our response to earlier questions may be referred please.

10. **Is it feasible to have an architecture wherein a common grid can be created through which any small entity can become a data service provider and able to share its available data to any consumer or user?**

Response:

Data service provider as referred in the question is the entity which would be providing internet access services. It may be noted that Wi-Fi is one of the technology used to provide Internet Access services to the end

consumers in India. As on date, the provision of Internet Access services by any entity can be done only after it obtains ISP license or becomes a VNO or a Franchisee of an ISP. The provision of Internet Access through Wi-Fi by any entity who is not an ISP is as per present regulation and licensing regime is a case of resale of services which would necessarily require VNO ISP license. Alternatively, the provision of internet services can be proposed to be delicensed whereinafter we can have an architecture wherein a common grid can be created through which any small entity can become a data service provider. This would however require detailed deliberations.

11. What regulatory/licensing measures are required to develop such architecture? Is this a right time to allow such reselling of data to ensure affordable data tariff to public, ensure ubiquitous presence of Wi-Fi Network and allow innovation in the market?

Response:

Please see response to Question No.10 above.

12. What measures are required to promote hosting of data of community interest at local level to reduce cost of data to the consumers?

Response:

There are two costs for data hosting viz infrastructure /Space cost including power and internet access/connectivity cost. Policy measures should be taken to provide boost to setting up of Data Centers locally. The data hosting services should continue to remain outside the ambit of licensing regime.

13. Any other issue related to the matter of Consultation.

Response:

Hotspot providers or Wi-Fi providers in a campus generally act as an agent of the ISP who provides ILL services to these providers. We have following

suggestions for smooth operation of this arrangement between the Wi-Fi provider and the ISP:

a. All the Wi-Fi providers should be treated as an agent or franchisee of the ISP.
b. The Wi-Fi providers should be permitted to bill the customer on behalf of the ISP.
c. The responsibility of compliance in respect of license conditions will rest with the ISP.

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