Bharti Airtel Limited's Response to TRAI's Consultation Note on "Model for nation-wide interoperable and public Wi-Fi networks"

At the outset, we wish to extend our sincere thanks to the Authority for providing us with the opportunity to submit our response to this consultation note. We hope that TRAI will consider our submissions favourably.

Currently, Internet services in the country, through any access technology, be it Wi-Fi, cellular networks or wired technology, can be provided only by licensed Telecom Service Providers (TSPs). The reselling of Wi-Fi services can only be done by licensed Virtual Network Operators (VNOs). This is due to the fact that under Section 4 of the Indian Telegraph Act, 1885 (ITA)[1], the establishment, maintenance and working of telegraphs[2] requires a license from the government. The end customer/enterprise has the right to create Wi-Fi hotspots for its own use only.

The model suggested by TRAI in the consultation note proposes solutions for the process of authentication and payment for the access of Wi-Fi services. Although the intent to simplify the authentication and payment process is good, the model has a fundamental flaw, as it envisages the establishment and maintenance of telegraph activities, which inter-alia include Wi-Fi hotspots, by unlicensed entities.

We believe that current licensing framework is largely conductive for the proliferation and expansion of Wi-Fi services and allows for both technical and commercial interoperability between TSPs. Thus, any business model should only involve the licensed entities, who intend to install Wi-Fi hotspots and handle the Authentication, Authorization, and Accounting (AAA). Further, we also believe that the regulatory framework should allow market forces to develop their own business models, commercial tie-ups, revenue sharing, infrastructure sharing, etc., as has been supported by TRAI for the last two decades.

In addition to the model suggested by TRAI, the process of authentication can also be simplified by the use of 'Mobile Connect', an authentication process launched by GSMA

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[1] **4. *Exclusive privilege in respect of telegraphs, and power to grant licenses.***
Within [India], the Central Government shall have exclusive privilege of establishing, maintaining and working telegraphs:
Provided that the Central Government may grant a license, on such conditions and in consideration of such payments as it thinks fit, to any person to establish, maintain or work a telegraph within any part of [India]:

[2] "telegraph" means any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, visual or other electro-magnetic emissions, Radio waves or Hertzian waves, galvanic, electric or magnetic means. - Preamble to the Act

across the world. Since the growth of the Indian telecom sector is mobile-driven, with more than 1.2 billion wireless customers, a Wi-Fi customer will most likely also be a mobile customer. Therefore, a mobile-based authentication process would be most feasible for the objectives that TRAI seeks to achieve.

Similarly, the end customer already have multiple options with which to pay for accessing a Wi-Fi hotspot, such as physical vouchers, semi-wallet, net banking, credit/debit cards and the pre-paid wallets/post-paid bill provided by TSPs. The usage of digital wallets is going to increase significantly due to the government's recent efforts to promote a cashless economy with the help of mobile-based payment banks, semi-wallets and Unified Payment Interface (UPI) and thus, we do not foresee any challenge related to payment integration.

In the consultation note, TRAI has proposed that the owners of venues such as malls, shops, restaurants, etc. could become Wi-Fi hotspot providers. We believe that for establishing a the WiFi based internet network, be it "Hotspots" or "Hotspot Aggregators engaged in selling, billing and charging the Internet Services", would require such persons/entities to obtain a licence under ITA. Further, it is also important to ensure that the provision of Wi-Fi services by such owners should not give rise to monopolistic behaviour such as denial of the right of way (RoW)/access to other the other licensed operators. This would adversely affects voice and data coverage at those premises. Thus, we request TRAI to duly consider this issue while framing its recommendations on the subject, so that the policy framework explicitly deters such WiFi service providers from any kind of monopolization and instead promotes non-exclusivity, keeping the interests of consumers and other licensed operators in mind.

In our response to TRAI's consultation paper on "Proliferation of Broadband through Public Wi-Fi Networks", we had highlighted the various issues that have hampered the growth of Wi-Fi services in India. We had also stated that the affordability of Internet services, including Wi-Fi services, could be enhanced by effecting policies such as zero licence fee for Internet services, free RoW permissions, availability of uninterrupted power supply, permission to set up kiosks at select locations, ensuring safety and security of Wi-Fi infrastructure, etc. We sincerely hope that TRAI will consider our submission to the consultation paper favourably while framing its recommendations on the subject.

In the above context, our views on the various questions raised by the Authority in the current consultation note are as follows:

Q1. Is the architecture suggested in the consultation note for creating unified authentication and payment infrastructure will enable nationwide standard for authentication and payment interoperability?

Q2. Would you like to suggest any alternate model?

<u>**Airtel's Response:**</u>

1. As elaborated above, although there are good intentions behind the simplification of the authentication and payment process for accessing Wi-Fi services, as suggested in the model, the architecture proposed in the paper would create a "super entity" that could manage customer authentication and route all Internet traffic without even requiring an ISP license. The fundamental flaw in this model is that it envisages the establishment, maintenance and work of telegraph activities, which inter-alia include Wi-Fi hotspots provided by unlicensed entities. Further, any integrator/registration provider handling AAA is also an unlicensed entity. Thus, such a model should only involve licensed entities, both at the level of the 'Hotspot provider' as well as 'integrator/registration provider/any entity' handling AAA.

2. Furthermore, the proposed architecture will create additional layers (central registry, registration application provider) through regulatory intervention, leading to complexities in the ecosystem. Issues relating to privacy and security of subscriber data will also have to be dealt with. The proposed architecture does not comply with standards such as Hotspot 2.0 and Passpoint, which allow for global interoperability.

3. As per ITA 1885, only licensed entities are authorized to provide Wi-Fi services (Internet Services). We believe that each ISP should be allowed to acquire its own customers and be able to share/roam and partner with other networks, for which there are multiple models in place. For example, Airtel customers can roam with an additional SSID for D-VoiS in Manipal, and Vodafone and Airtel customers can roam on each other's networks in various premises such as the Supreme Court. We believe that the regulatory framework should facilitate the growth of all types of market innovations and business models without any unnecessary regulatory intervention.

4. Currently, licensed operators are solely responsible for all activities, including AAA. Outsourcing such activities through regulatory intervention or favouring a particular business model is unwarranted and would require much careful consideration on the issues of national security, privacy of consumer information/data, secured and

seamless access to Wi-Fi services, etc. It will also end up disturbing the existing licensing framework. Instead, it could be easily achieved through alternative means such as the sharing of Wi-Fi access points.

5. We believe that while the development of Wi-Fi services is very important, the licensing regime should not be done away with (as explained in our responses to subsequent questions). Furthermore, the challenges of authentication, technical interoperability and adequate payment mechanism can be easily overcome within the current licensing framework, with the collaboration of all stakeholders, as stated below:

   a. *First,* the current licence provisions allow for the technical interoperability of Wi-Fi networks in order to provide end customers with seamless Wi-Fi connectivity and experience. TSPs are also allowed to interconnect with other operators directly via peering/Internet ports. Furthermore, there is no issue with respect to commercial interoperability as TSPs are already sharing their Wi-Fi access points based on mutual agreements.

      The sharing of common access points between two TSPs requires integration with respect to the type of SSIDs, type of authentication being used, IP address scheme used for access points and the complex WLC/Access separation on the basis of the transport. Due to non-standardized integration methods, different methods/techniques are presently being used for integration with different operators.

      Thus, a policy framework may be required to enable all Wi-Fi hotspots to be technically interoperable (such as being Passpoint or Hotspot 2.0 compatible) thereby making it easy for all telecom operators to connect with each other. TRAI/DoT may collaborate with telecom operators in order to ensure technical standardization.

   b. *Second,* the current process of login/authentication, including OTP, has been prescribed by DoT and the Ministry of Home Affairs after taking national security into consideration. However, based on technological developments, DoT/TRAI may review the process and scope of the login/authentication procedure to ensure that it does not become a hindrance to the proliferation of Wi-Fi services.

One such initiative is the 'Mobile Connect' authentication service, which allows for secure registered access to Wi-Fi through automated means on the user's device. It eliminates both the unsecured SMS password element and the need to retain customers' photo-IDs, thereby helping to protect customers' identity while meeting regulatory obligations. We humbly request TRAI to consider this method of authentication for Wi-Fi services.

c. *Third,* we do not foresee any regulatory intervention in the payment mechanism as the subscribers have several options to pay for accessing a Wi-Fi hotspot, voucher sold through a large distribution network, electronically through credit card/debit card/net banking, and various other payment platforms such as Airtel Money, PayTM, BillDesk, FreeCharge, and SpeedPay. If the Wi-Fi consumer happens to be the customer of a telecom service provider, then he/she could also pay through a pre-paid wallet.

Since there are multiple payment options available for end customers to recharge telecom services (including Wi-Fi), we do not recommend any regulatory intervention or special measures for separate payment solutions for Wi-Fi services; we believe they should continue to be driven by market forces. Furthermore, for any new payment option, TSPs will need to market the solution separately at an extra cost for market adoption. This will increase the burden on Wi-Fi operators to make their business viable.

Q4. What should be the regulatory guidelines on "unbundling" Wi-Fi at access and backhaul level?

<u>Airtel's Response:</u>

1. We would like to reiterate that only entities licensed under ITA should be allowed to offer Wi-Fi services.

2. We do not recommend any regulatory intervention for unbundling Wi-Fi at access and backhaul levels. In fact, such unbundling even on a mutual basis should only be allowed between two licensed entities and not between one licensed entity and one unlicensed entity, through regulatory intervention or otherwise.

3. Indian telecom operators have been sharing their passive infrastructure with each other for more than a decade. Last year, the government permitted the sharing of

active infrastructure followed by the sharing of access spectrum in various bands. These sharing arrangements are thriving as they are based on mutual terms and conditions between TSPs, allowing for complete commercial flexibility without any regulatory intervention.

4. Therefore, we do not support any regulatory intervention for the unbundling of Wi-Fi at access and backhaul levels or for the sharing of network resources between two licensed entities; we believe it should be left to market forces.

Q3. Can Public Wi-Fi access providers resell capacity and bandwidth to retail users? Is "light touch regulation" using methods such as "registration" instead of "licensing" preferred for them?

Q5. Whether reselling of bandwidth should be allowed to venue owners such as shop keepers through Wi-Fi at premise? In such a scenario please suggest the mechanism for security compliance

<u>Airtel's Response:</u>

1. As mentioned above, the installation of Wi-Fi hotspots is an activity licensed under ITA. Thus, the reselling of telecom services, including Wi-Fi services, should not be allowed without obtaining a Unified Licence (VNO). Therefore, any entity that intends to resell Wi-Fi services in India should first be required to obtain a VNO Licence.

2. In fact, one of the reasons behind the introduction of VNOs was to enable entities to use their premises to resell Wi-Fi services. In its recommendations[3], TRAI had stated:

   *2.12   "<u>**There can be several organizations that want to make their controlling areas/premises Wi-Fi enabled**</u>. For example, cities like Delhi are aiming to become a fully Wi-Fi enabled city to provide broadband services to its citizens so that various e-Governance services are available on their mobile devices. Similarly, the Indian Railways is aiming to make railway stations Wi-Fi enabled for the benefits of its passengers. In the present setup they need to rely exclusively on existing NSOs for provisioning of such services in the controlling area/boundaries. <u>**If they are allowed to become VNOs within their boundaries, they can provide such services according to the needs of the customers**</u> and can design innovative tariff plans to suit customers' needs…"*

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[3] http://www.trai.gov.in/WriteReadData/Recommendation/Documents/Recommendations_VNO_01_05_2015.pdf

*2.16   In addition, under the 'Digital India' program the Government has identified three key areas viz. 'Digital Infrastructure as a Utility to Every Citizen', 'Governance & Services on Demand' and 'Digital Empowerment of Citizens'. It aims to create infrastructure including public wi-fi hotspots for citizens and wi-fi in 2.5 lakh schools and all universities. This program envisages VNOs **for service delivery and mandate communication infrastructure in new urban development and buildings.**

3. Pursuant to these recommendations, DoT has already introduced the Unified Licence (VNO). Therefore, entities who want to resell Wi-Fi services can always obtain a VNO licence by tying up with the TSPs.

4. We also believe that DoT already has a relaxed, light touch approach when it comes to the current licensing framework for providing Wi-Fi services in India. This is evident from the fact that since the introduction of Unified Guidelines, DoT has issued more than 483[4] Unified Licences with ISP Authorization, which is over and above the 244[5] ISP licences issued under the previous regime. Furthermore, the entry fee for ISP operators is quite low. An entity can obtain a Unified Licence with ISP-Category-C Authorization (which is most relevant for venue owners such as shopkeepers) with a minimum entry fee of Rs.20,000 and a Unified Licence (VNO) Licence with ISP Category-C authorization with a minimum entry fee of Rs.10,000. There is no requirement for a minimum network or paid-up capital for such ISP operators. Therefore, we recommend that the existing licensing regime should be allowed to continue for the provision of Wi-Fi services.

5. We would also support any initiative of TRAI to further relax the licensing requirement for providing Internet services, as it would facilitate the entry of more operators while ensuring a level playing field in the telecom sector.

6. However, we strongly oppose any form of registration certificate for the installation of Wi-Fi hotspots, since it has neither been envisaged in our licensing framework nor has it been contemplated in the National Telecom Policy 2012. Such a step would end up undermining the Unified Licensing framework and would lead to the creation of regulatory arbitrage and a non-level playing field between the licensed and unlicensed operators offering Wi-Fi services.

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[4] http://www.dot.gov.in/sites/default/files/2016_08_24%20ISPUL-DS_0.pdf?download=1 – As on 30.06.2016
[5] http://www.dot.gov.in/sites/default/files/2016_08_24%20ISP-DS_0.pdf?download=1

7. While the development of Wi-Fi services is very important, the licensing regime should not be done away with, i.e., Wi-Fi services should continue to be allowed to function within the current licensing framework. This is critical, as the mass adoption of Wi-Fi services warrants a robust licensing framework to safeguard the interests of the consumers and to handle issues related to interoperability, interconnection, QoS, tariffs, security, privacy of consumer data, etc.

8. Furthermore, without prejudice to our position over the issue, while a registration certificate is being proposed for the installation of Wi-Fi hotspots in India, we are not able to understand how TRAI will protect the consumers' interests if the regulations related to tariff orders, QoS, security of the access, privacy of the consumer, are not applicable to the unlicensed Wi-Fi hotspot providers. Even if these are made applicable, it would be very difficult to ensure that all unlicensed entities in every nook and corner of the country are following the regulations. The industry has already witnessed the unchecked growth of cable TV services, which has led to the digitalization of cable networks becoming a very tedious task.

9. Furthermore, tariffs are offered to individual customers based on the premise that the services will be consumed by the individual himself and not be offered for reselling. Allowing such customers to resell their data for commercial considerations will not only vitiate the entire licensing regime but will also jeopardize the investments made by telecom operators.

Q6. What should be the guidelines regarding sharing of costs and revenue across all entities in the public Wi-Fi value chain? Is regulatory intervention required or it should be left to forbearance and individual contracting?

Airtel's Response:

1. As explained above, we recommend that Wi-Fi services should continue to be provided by licensed entities only.

2. Further, we believe that in a market-driven economy, commercial freedom and engagement, including the sharing of costs and revenue between two licensed entities, should be left to market forces. Indian TSPs have been sharing their infrastructure with each other for more than a decade, based on mutual agreements, and such a regime has been highly successful. Any regulatory intervention on this aspect would be tantamount to curbing the ease of doing business and, hence, should be avoided.