Wireless Broadband Alliance (WBA) response to:

Consultation Note on Model for Nation-wide Interoperable and Scalable Public Wi-Fi Networks, New Delhi 15th November 2016

About the WBA:

Founded in 2003, the mission of the Wireless Broadband Alliance (WBA) is to champion the development of the converged wireless broadband ecosystem through seamless, secure and interoperable unlicensed wireless broadband services for delivering outstanding user experience. Building on our heritage of NGH and carrier Wi-Fi, WBA will continue to drive and support the adoption of Next Generation Wi-Fi services need coexistence and convergence of unlicensed and licensed networks across the entire public Wi-Fi ecosystem, including IoT, Big Data, Converged Services, Smart Cities, 5G, etc. Today, membership includes major fixed operators such as BT, Comcast and Charter Communications; seven of the top 10 mobile operator groups (by revenue) and leading technology companies such as Cisco, Microsoft, Huawei Technologies, Google and Intel. WBA member operators collectively serve more than 2 billion subscribers and operate more than 30 million hotspots globally.

Issues for Consultation

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?

Aadhaar, eKYC (e-Know Your Customer) and Unified Payment Interface (UPI) – are well-established and standardized mechanisms for user identification and provide merit to verify user identity information during online sign-up for national customers (Point of Identification - POI).

The current proposed architecture proposes to use this POI as a method for network access (Point of Access) and will create significant (additional) layers of complexity and key limitations.

Key limitations are:

(1) Lack of compatibility with existing standards; the proposed architecture would have significant impacts on existing legacy methods for network access being deployed in India.

(2) Architecture is based on 1-click authentication and payment. In this process, access and payment are always combined, and neglects / limits business models that SPs might want to offer (e.g. subscription access, pre- or post-paid models, free access; advertising supported access; neutral host SP's) as the end user would only have visibility to the app via

(3) Multiple layers of complexity and touch-points that can impede the customer experience, e.g. having a single registry where SSIDs, profiles and keys are managed creates a single point of failure for an entire public Wi-Fi system.

(4) Visiting international users would not be able to use the services as they would be lacking a registration process.

(5) Roaming between networks of different international SPs would not be possible. Users would need to maintain separate accounts from multiple SPs to access services through multiple portals or apps. The current regulatory requirement for user identification and registration limits the possibility for inbound roaming traffic from (non-mobile) SPs

(6) Emergence of too many apps creates challenges for SP integration and availability

(7) If an app could be developed, app compatibility with multiple mobile OS/hardware platforms may bring additional (security) challenges

Q2. Would you like to suggest any alternate model?

As outlined in our previous submission, the usage of Passpoint/Hotpot 2.0 and Next Generation Hotspot will offer the required security and other regulatory requirements by using a SIM/USIM, or another securely provisioned and stored credentials (username/password or client certificate – TTLS/TLS). These identifiers can be applied for both domestic as well as foreign users. The credentials can be used to trace back identity information as and when required. In addition, compliance with international standards has the advantage of backwards compatibility: new developments agreed within international standardization organizations would be easier to integrate than when performing a national ad-hoc deployment.
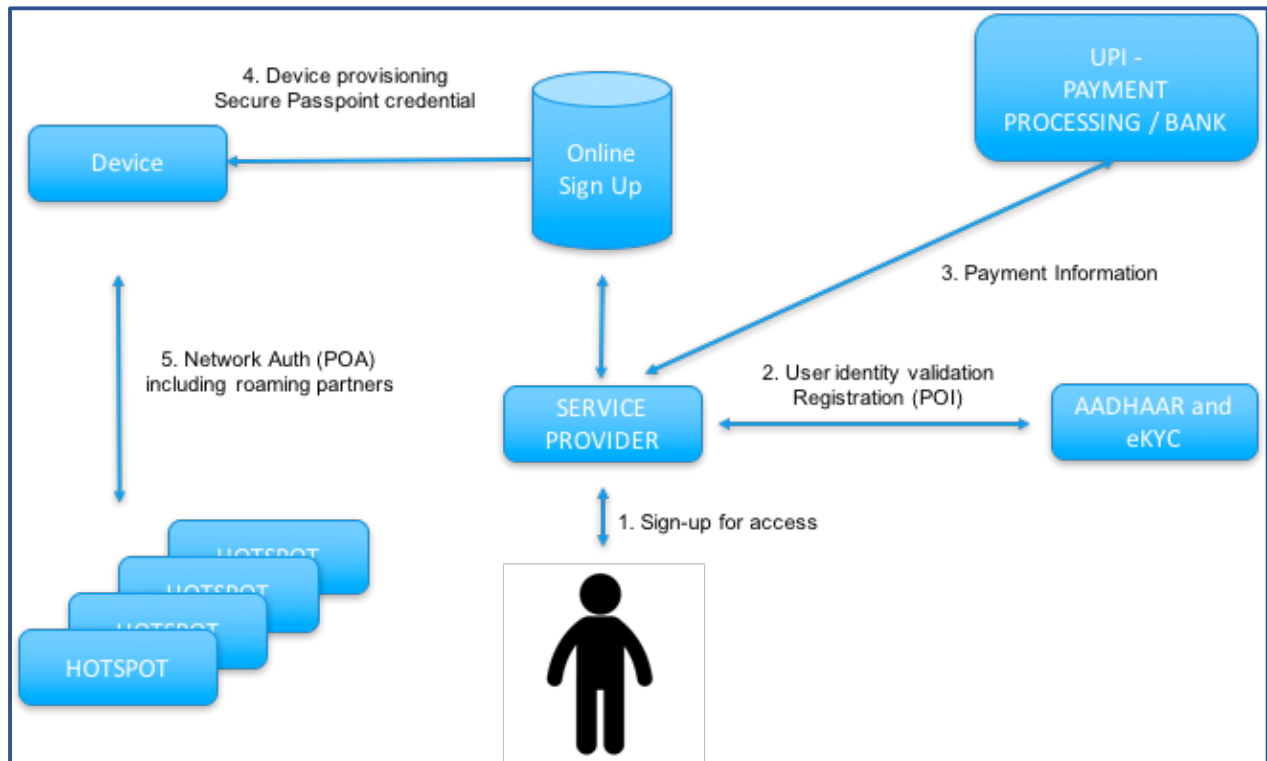
To make Passpoint and NGH effective at a national scale, business and roaming arrangements could be developed and implemented between participating providers. In the context of India, TRAI could sponsor efforts to encourage the formation of roaming consortiums so that Indian users would be able to use different Passpoint/NGH enabled hotspots across India from different credential providers.
This would also open the possibility for users from approved foreign credential providers to use hotspots of Indian service providers

Where a user does not have access to appropriate credentials for a Passpoint/NGH enabled hotspot (e.g. one time user, new customer or overseas customer), the standard also specifies mechanisms for On-line Signup. On-line Signup allows also foreign travelers in India relatively easy access to hotspot services, with registration only required at the first Passpoint/NGH enabled hotspot that is encountered in India or directly with the Indian SP.

Given the goals of Digital India, however, TRAI might consider to incentivize public networks to deploy Passpoint/NGH enabled hotspots in any number of ways. One method might be governmental recognition of Passpoint/NGH enabled hotspot networks, such as on governmental webpages, including tourism pages. In addition, the government might from time to time convene workshops or conferences for Passpoint/NGH enabled hotspot operators bringing in experts to brief them to new technology developments and business model opportunities.

Passpoint and NGH can provide the required levels of secure authentication, billing and settlement that are envisaged by TRAI for Public Wi-Fi, as outlined in the following diagram.

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?

Yes – reselling capacity and bandwidth is possible and should be allowed. Public Wi-Fi Access providers in the country must be able to build their business case and business model around several different monetization options and reselling capacity, bandwidth and Public Wi-Fi access to retain users must be an option for the (neutral) Wi-Fi service provider. The access providers might provide his own 'branded' SSID or sell a new 'rebranded' SSID.

Light touch regulation is preferred.

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

No regulatory intervention is necessary unless problems emerge later. In fact, enabling maximum flexibility based on the use of Wi-Fi CERTIFIED Passpoint is the preferred choice, given the variety of networks and business models that will likely emerge.

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.

Wi-Fi CERTIFIED Passpoint solves the security problem.

All public hotspot operators should be required to offer Passpoint/NGH functionality as a requirement for reselling.   By providing the ability to support (neutral) host models and reselling of capacity and bandwidth, shop keepers would be able to obtain Wi-Fi access through licensing models that would ensure that security would be maintained at required levels.

For small shopkeepers, resale of Wi-Fi access to end customers should not be allowed to be open and unprotected. At a minimum, providers should be encouraged to use WPA2-Personal security and to create a log of who is utilizing the shop's access point.

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?

This should be left to individual contracting to incentive innovation and interoperability. Market forces are the best method of determining what business models will work best in India.

Wireless is one of the most dynamic, fast-changing sectors - from adoption rates, utilization of data, business models and technology. It would be virtually impossible for government to impose a static cost sharing and revenue sharing regime that would support the growth demanded by the Digital India goals.