National Public Wi-Fi Broadband Service & accessibility Policy-2016

POLICY BRIEF

**1. Preamble**

 Ubiquitous access to the net connectivity and its impact on the national GDP growth are widely recognized at all level. There has been an increasing demand by individuals and organizations that the high speed uninterrupted data services ('Always On') should be made available at all the time at an affordable & cheaper rate. Presentlydue to the rapidly increased mobile data overload fulfillment of users' demands are often compromised at the cost of unwanted network latency leading to declining the satisfaction level of the consumers. It has been a research proven outcome that an wide spread network of **Public Wi-Fi service** can greatly improve this scenario as a complementary service in such a way that mobile data can be dynamically offloaded / shared to get rid of unwanted break in packet transmission. It has been a constant endeavor of the Government to take remedial steps for improving the telecom grade of service (GoS) in accordance with the technological evolution and its consumption for emerging national growth.

**2.**

**SUMMARY OF FINDINGS/RECOMMENDATIONS**

The principles on which Public Wi-Fi service & accessibility need to be based include the following:

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|  | **Recommendations / Findings** | **Brief Descriptions** | **Outcome Indicators** |
| **1.** | **I**nteroperability, compatibility, open standards, scalability, quality of service & flexibility on user portability | Wi-Fi devices & equipments must be interoperable, compatible, quality assured and should follow open international standards to future upgradation.  | Ease of adaptability. |
| **2.** | **A**ffordability & **S**ecured payment structure & encryption of accounting transaction data | Connectivity should be non-discriminatory, affordable & uniform by nature across the country (Tariff control).A National level integrated & secured platform of Payment Interface supporting multiple ISPs. | Common for all.Secure & Robust payment system |
| **3.** | **S**tandardizing **U**ser authentication, secured login & protection of user privacy | -User authentication during registration process should be standardized, seamless & independent of any device, ISP and application..-Secured login as per DoT instruction dated 23.02.2009.-Protection of user's privacy in terms of information contents and identity should be protected at any cost. | -Aadhaar for domestic users ,or, Passport for foreign users, or,any other method suggested by Ministry of External Affairs (MEA)-Central authentication mechanism, ID/Password in Mobile No./ OTP-Proper encryption algorithm.  |
| **5.** | **U**niform Institutional framework for bringing professionalism at all levels. | Clear cut Administrative & Organization Reforms at State / District/ Panchayat level. | Defined Roles & Responsibilities with accountability at all stakeholder levels. |
| **6.** | **P**rovision of Data load sharing between prevailing mobile technologies and incumbent Wi-Fi technology through **S**tandardized SLAs between ISPs  | Automatic switching between different technologies in case of data overload or absence of either of the services.  | "Always Connected"  |
| **7.** | **R**ight of the way (ROW) for ISPs & **S**ustainable business model. | Civic Body/Local Body to ensure ROW for faster deployment. Viable & guaranteed revenue sharing business models for ensuring sustainability to both last mile village level entrepreneurs /other capable kiosk operators and ISPs/National CSC content & application provider (CSC SPV)/any other CAPs. | Win-Win situation |
| **9.** | **C**onformity to existing Legal framework | Conformity with the existing legal framework of Cyber Security (IT Acts) and Rules & users should be always traceable. | Lawful Interception |
| **10.** | **B**OOT based commercial model for deployment of Public Wi-Fi services | Good pricing mechanism (license, taxation). State Governments/UT Administrations need to take ownership of the model.  | Own your network.Minimizing barriers to Entry for ISPs. |
| **11.** | **C**reation of special purpose vehicle (SPV)- perpetuity in nature. | For regular assessments on frequency & site planning, monitoring, providing supports at technical & financial capabilities etc. even after Government supports end. | National Program Management Unit for coordinatings entire implementation. |
| **12.** | **L**everaging existing Common Services Centre (CSC) ecosystem  | -Unterrupted voluminous transactions on specialized services-e-Governance, financial & social inclusion. They can be entrusted to look after the maintenance of Wi-Fi access points and scaling up the distribution of Wi-Fi services. Rents can be compensated in various ways. | Lucrative Business model. |

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| **THE RESEARCH** |

**3. Need for the Policy**

 ***National Public Wi-Fi Broadband Service & accessibility Policy*** aims to provide an enabling provision and unified platform for providing a reliable and open access to the high speed data connectivity for bringing in greater impact on GDP.

**4. Issues to be addressed:**

**Regulatory:**

1. Appropriate regulatory measures for allocative efficiency to address scarcity of unlicensed spectrum and frequency management for ISPs.
2. Meet criteria of Interoperability, Compatibility, Open standards, Scalability, Quality assurance and flexibility.
3. Address packet transmission interruption by mandating automatic handover from mobile to public Wi-Fi.
4. Controlling Tariff uniformly.
5. Conduct periodical audit on Wi-Fi operation of various ISPs by TRAI.
6. Monitoring EMF Compliance and other standard benchmarks of radio access network.

**Licensing**:

1. Limitations of usage of unlicensed spectrum for Wi-Fi in four different bands.
2. There are several other frequency bands which can supply high capacity backhaul. For instance, E-Band (80 GHz) and V-Band (60 GHz). Other internationally harmonized bands in 6-42 GHz range viz. 26 GHz, 28 GHz, 32 GHz, 38 GHz and 42 GHz.
3. To workout to release larger quantities of unlicensed spectrum for better quality of service and reducing the loads on existing networks, for instance TV White Space (470-690 MHz UHF).
4. Allocating spectrum for Public Wi-Fi, government need to reserve some unlicensed spectrum for public utilities kind of services e.g. e-Governance services (for CSCs) etc.
5. Appropriate pricing mechanism of license fee allocative efficiency for standard business & commercial models ensuring the sustainability through the way of partnership.
6. States which complete work before scheduled timeline to be incentivized in funding pattern of BharatNet.

**5. Deployment of commercial models**

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

For this, Government needs to consider the following recommendations:

* Liberty to ISPs on taxation part.
* Viability gap funding & transparent bidding process for selection of competent ISPs for deployment of Wi-Fi network through PPP mode.
* Finalizing realistic approach of MSAs / SLAs for Win-Win situation. Institutional Framework :: clear cut Administrative & Organization Reforms at State / District/ Panchayat level.
* Most competitive but uniform pricing for both the consumers & other stakeholders. Equitable revenue sharing.
* Creating a Special Purpose Vehicle for regular assessments on implementation, monitoring, providing supports at technical & financial capabilities etc. even after Government supports end.
* Constituting State/UT level Apex body comprising members from all the associated organizations / civic bodies for handholding & directing ISPs for smooth implementation and to take ownership of the model after it becomes fully functional.
* For this, a demand side analysis for absorptive capacity of present & potential institutional users need to be assessed through research under the implementation framework of public Wi-Fi Policy.

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