

Creating an "STD Booth" Revolution For WiFi Hotspots!



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- **Short term**
Intra building for better 4G coverage
- **Medium term**
Offloading from mobile network
- **Long term**
Large need from connected devices (IoT need)

What's stopping today?

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- Inherent HW limitations, logistics, complexity, ...
- Power need, active management
- Loosely coupled - lack of traffic control, QoS, etc.
- Consumer behavior (expects free?)
- Business viability
- Interoperability on common KYC and easy payments

Are all those excuses?

Why can't a shop keeper put up a single hotspot and allow electronic payments or allow paid WiFi to customers?

If sachet access is cheap enough, would it work for people to get on and get off?

What are the possible models?

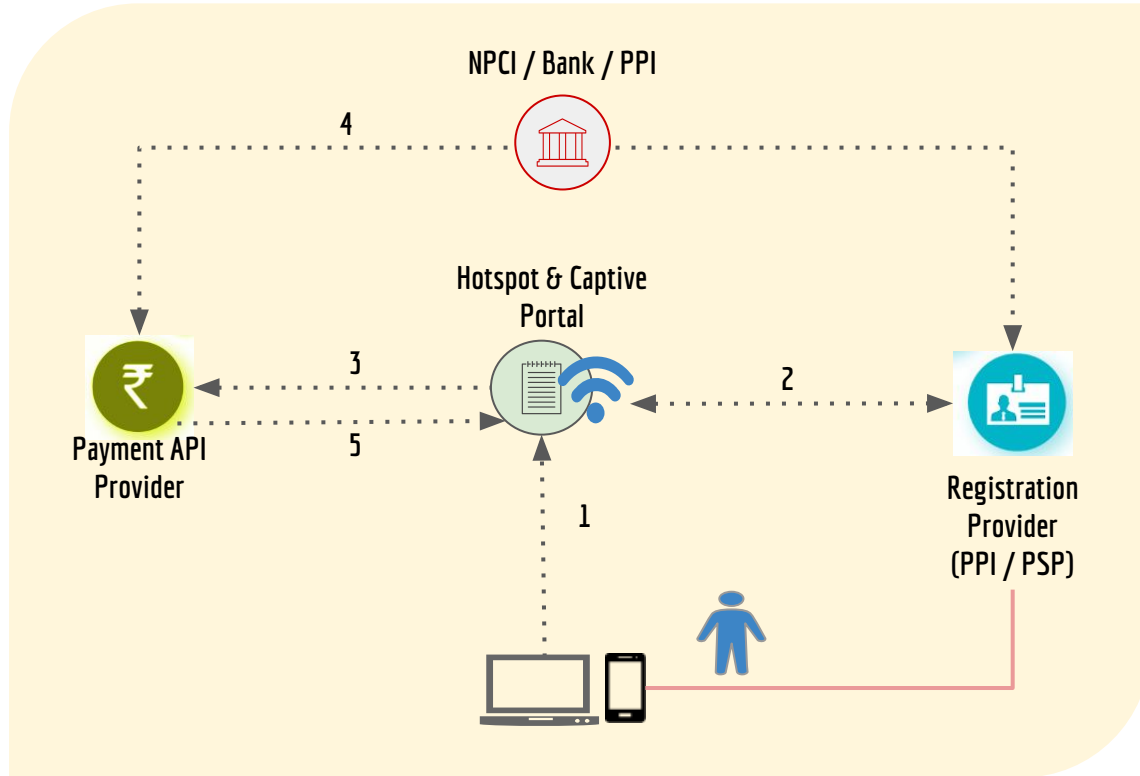
Pipe vs Platform

Assuming regulatory issues allowing a platform model with lakhs of hotspot providers can be unblocked,

we still need ...

Simple, easy to use, KYC method and easy payment is necessary

One possible architecture for 1-click KYC and payment



Registration

- Users install an app from one of the preferred Registration Providers (PPI/PSP)
- Allow users to create a profile with verified mobile/Aadhaar s they normally do with wallet/UPI apps
- Optionally allow users to easily add/remove devices (MAC-ID and a name) which they want to connect to various WiFi hotspots
- Allow users to set up payment rules for WiFi usage (pre-authorize a provider, pre-authorize max amount, etc.)

Subscription

- Users connect to public WiFi hotspot using their wallet/UPI app, by browse WiFi hotspots (app may show matching SSID from registry)
- Registration app creates an encrypted token (that contains any data required by that application's server, optional list of MA-IDs, etc.) and creates a standard URI for passing it on to captive portal
 - URI is `twa://reg-provider-id/reg-app-token`
- App then connects to the captive portal and passes the encoded URI as part of the URL
 - `http://captive-portal/?twa%3A%2F%2Freg-provider-id%2Freg-app-token`
- Captive portal detects the "twa" protocol and then do the following:
 - Extracts the provider ID and the reg-app-token
 - Encrypts the reg-app-token with the hotspot provider private key
 - Uses the auth URL of the provider (obtained and cached from TRAI registry) and call the auth
 - `https://reg-provider-host/twa-auth/encrypted-reg-app-token`

Subscription

- Registration provider decrypts the reg-app-token using hotspot provider public key, decrypts the reg-app-token using their key, and validate the token.
- Registration provider then returns a signed data including mobile, name, and payment address
- Once WiFi hotspot provider obtains the profile and list of devices, it should allow all devices, including the one that initiated the connection, to be connected within the same session
- Hotspot provider should show the name and last 4 digit of phone number in the captive portal user interface, ask for user to choose a plan, and ask user to accept terms of usage
 - Hotspot provider, based on the amount selected, makes the payment call to charge the amount via their payment API provider
 - Hotspot provider charges the user and allows access to all device IDs under that user profile to seamlessly connect
- When the session is about to expire, hotspot provider can prompt the user and requests extension and charge additional using the payment address

We should unlock business model first and then resolve technology

With Aadhaar auth or Mobile Connect, KYC is 1-click
With wallets and UPI, payment is 1-click

Allow merchants to make payment or few other sites free on their hotspot to create initial incentive.

Points to discuss for experts

- Why can't we look at a "solar rooftop model" allowing one hotspot on the grid?
- Or even crazier, can we create a massive network of lakhs of small TSPs connected via an open backbone which is a public good?
- Are startups and innovators ready to build necessary software?
- Will India solve this in our own way instead of waiting for someone else to solve for us?

Or are we at the mercy of big daddies?!

3 IDEAS

National Open Fiber Platform

“Anyone” can put up a hotspot and sell

An interoperable 1-click subscription layer

Access to WiFi should be human right!

Thank You!

