

# PoV on Virtual Network Operation in India

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## 1 Executive Summary

This document is a Point of View on virtual network operation in India in response to pre-consolation paper “Delinking of license for networks from delivery of services by way of virtual network operators” issues by TRAI.

The PoV is an attempt to explore Indian communication market from virtual operation and regulation perspective

Indian telecom industry has gone through complex evolution and regulatory phase to become one of the most competitive market under flexible and adaptable regulatory environment. Defining rules and creating opportunity for virtual operators is one such attempt that will help in brining better customer experience and innovative application & content driven players in the market.

India has reached to a market maturity where competition can shift towards soft part of communication from traditional coverage driven approach there its most appropriate time to take a shift in service delivery value chain and introduce virtual players as full-fledged opportunity.

## 2 Context and Relevance

India is a big country with significantly high digital divide. It has plain land, hills and complex territory. It has regions like Mumbai and Delhi where in every pocket of land there is big opportunity for advance service revenue, but it has remote locations where getting a fresh subscriber for plain voice service is also difficult. In such situation it is extremely difficult to define one rule and open market for virtual players uniformly.

TRAI has correctly differentiated between fixed line and mobile segments because these two have very different nature of operation and require different capital structure to support network and services. At the same time consumer taste, economic situation and demographic differences also play an important role due to which virtual business strategy may be very useful in some circumstances and market verticals whereas it may hamper in basic service delivers somewhere.

Therefore it is recommended that India requires indigenous approach towards virtual service framework and regulation that may be influenced by developed market or other pioneering geographies in industry.

Any approach accepted needs to consider

- 1- Unique economic and operating condition of the nation
- 2- Avoid adverse and unfair impact on existing service providers
- 3- Promote value driven competition in industry
- 4- Safeguard interest of wider consumer profile in nation
- 5- Generate new opportunities for new players that are innovative and serious about business in India
- 6- Promote efficient use of infrastructure and radio resources
- 7- Avoid unnecessary litigation and regulatory issues

Communication industry is widely influenced by OTT players and that technically act as virtual providers in one or another sense, for example using OTT consumers can chat without paying for sms or sharing information with service provider. Therefore OTT should be considered while considering virtual service aspects.

### 3 De-linking of Infrastructure and existing licenses

De-linking of infrastructure has been happening since long in gradual way and crude example is Tower. As far as mobile is concerned it has benefited everyone mainly because it allows cost reduction while continue to provide competition on radio/spectrum domain.

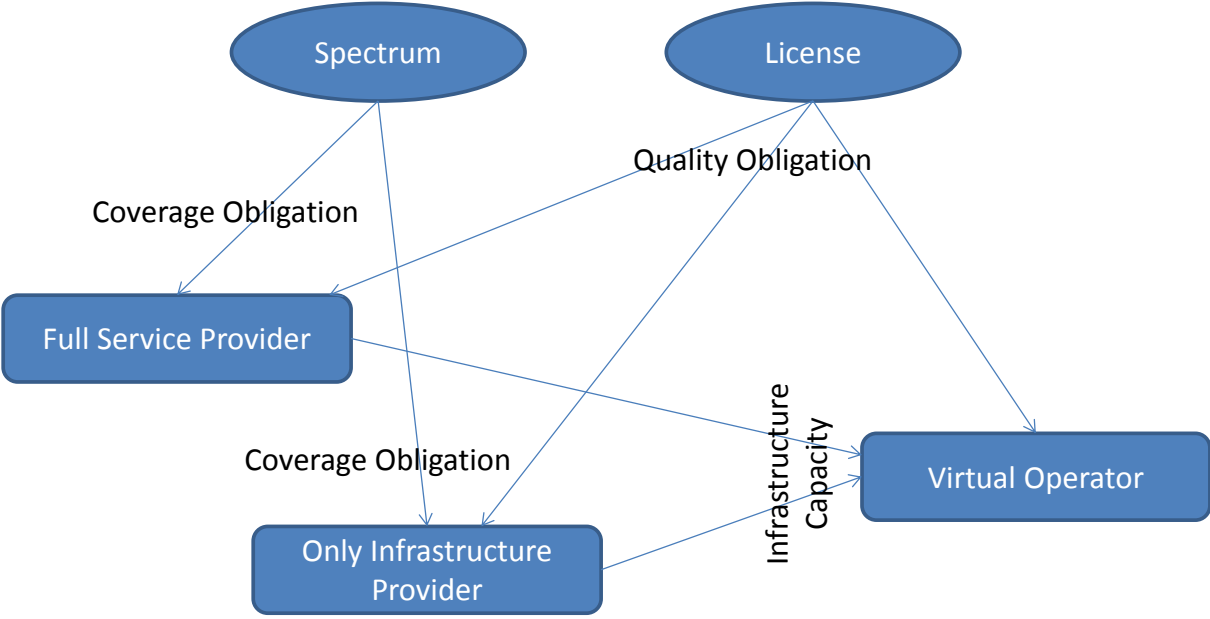
In Fixed-line/wireline/copper/fiber domain it is not very easy to de-link in country like India where part of the nation is still facing connectivity issue and where in most of the geography there is no other physical layer-copper/fiber operator apart from state owned companies. Therefore though de-linking may bring up opportunity for new players to provide service on top of existing infrastructure that will certainly increase infrastructure utilization and promote new services but it needs to be taken into account that state owned companies also see it as lucrative business and have motivation to build and operate such network with increased efficiency and business benefits.

Therefore de-linking of infrastructure needs to be business value and social need driven. Another approach may be to allow infrastructure owners to rent their infrastructure to other players based on market driven rental and revenue sharing agreements with some commitment for under developed sectors.

It is better to define a playing field within existing regulations without affecting existing players. If existing setup is challenged then it may have wider impact in terms of service commitment and customer ownership. In line with geographies like UK and continental Europe, any decision to completely delink operating units and separate network from service will require huge investments in terms of system separation and new entity formation. Therefore if industry can absorb such cost then it may be recommended to adopt same model and impose separation.

It is expected that most of the virtual payers will focus on metros and A grade cities therefore India is not placed to adopt complete de-linking and create new kind of licenses that are based on service and network, instead it may be recommended to promote rental and resale model where any player can carve out a portion of infrastructure for other at competitive price and mutual agreement and the new player may require to own license to operate based on TRAI rules.

Instead it may be considered as an opportunity to rationalize and simplify existing regulations where possible for more efficient and competitive operation. It may be recommended to bring quality and innovation aspect in competition apart from price.



#### 4 Obligations, Legal and Security Aspects

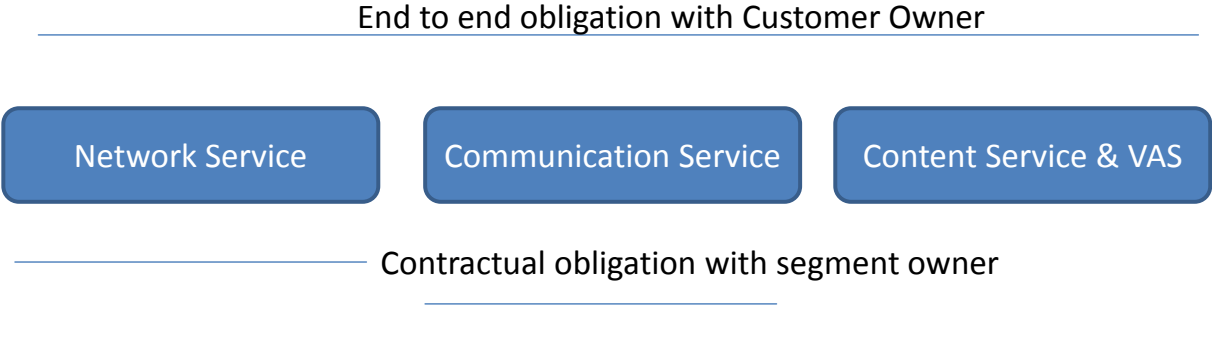
In Indian context, it may be recommended to align obligations for mobile infrastructure with spectrum owner or full service license owner. As mentioned earlier it is recommended to adopt capacity sale kind of model where capacity with network owner is taken by virtual player under competitive pricing and SLA to provide service. It is unlikely that any virtual player will prefer to be attached with any network obligation, moreover if without obligation service license can be acquired then many will like that and part of society will suffer from having poor coverage or network. India needs to promote network expansion therefore virtual service license may be recommended as stand-alone license to provider service under a fee and capacity purchase agreement with network players or full service players.

To promote virtual services, it may be recommended to have very lean and thin regulations around service delivery and leave most aspect on competitive market forces that are already proven.

Legal aspects like lawful interception need to be responsibility of asset owner that includes customer ownership. Therefore call setup within a network is definitely a recommended ownership of the network owner whereas systems that are owned by virtual players need to be responsible for their action e.g. application servers and application services need to be controlled by virtual players and all related access records for any investigation need to be provided by them.

It may be recommended that end to end first line ownership is tagged with virtual player and virtual player needs to coordinate with network operator to find out granular details for any investigation. Those network providers that want to sell capacity to virtual players may have to agree on clause fo supporting all investigations by providing service setup and service consumption details as needed by law agencies.

Number range issue can be addressed by tagging numbers with existing network players so if capacity has been taken by a virtual player from one network provider then number range in line with that network player can be allocated to virtual player. When virtual player changes the network capacity provider then a process similar to existing number porting process but aligning to bulk and virtual player requirements can be adopted.



### 5 OTT Players and Virtualization

OTT players evolve out of imagination and innovation though adding more value and unexpected benefits to customer that tends to attract customers fast. Due to very nature of OTT application that mostly requires access to IP network, there is no intrinsic infrastructure liability for OTT players, unlike communication service providers that invest heavily to get through one call setup process.

It is not an easy task to define rules for OTT players because they are application driven and applications keep evolving. Therefore recommendation will be to focus on virtual service providers separately and OTT players separately. OTT players can be dealt with independent consultation process.

Increase in processing capability of handheld devices has blurred the difference between portable and non-portable hardware capabilities, therefore avoiding traditional communication services via OTT apps are next to impossible, especially with increase in bandwidth and broadband service quality. Virtual players may bring up more advanced applications and content to compete in market and attract new customers specially quality sensitive and youth segment or niche segments that are not satisfied with existing service delivery. It is in interest of industry to promote such competition that brings more qualitative advancements because price based competition is very mature.

It may be an approach to define certain rules and put restrictions on service class that a virtual player cannot support to avoid adverse impact on existing communication service providers that have invested heavily but how practical or feasible it can be, that needs to be seen. It is not clear if any such attempt will add value to industry but if yes it adds then such rules can be incorporated in regulatory process.



### 6 Impact of Global Virtualization

It is an opportunity to consider global virtualization movement in network and telecom service domain. Organizations like ONF, ETSI, ITU are going ahead with SDN and NFV very fast. Therefore India also requires a framework for interconnection, governance and regulation to inter-operate with global players and also use the concept for in-land service delivery.

Network Function virtualization will bring big potential for service providers in India because of geographical positioning and skill reservoir, regulation needs to act as catalyst in defining services and laying path for successful progression and engagement.

There are significant capacity lying idle in part of geographies because of many potential reasons e.g.

- a- Services offered are not attractive
- b- Services offered are not through cohesive channels
- c- Service support is poor
- d- Service marketing is not efficient
- e- Low demand

Virtualization provides an opportunity to use such idle capacity and augment same with add on features through other system owners to provide meaningful service to consumer. Therefore policies need to encourage constructive and innovative use of underlying infrastructure for meaningful business purpose.

India needs to provide virtualization to exploit it as opportunity to serve global players and market with its existing pool of capabilities and policy easiness by defining regulations that support virtual players and promotes infrastructure set up at the same time will help economy.

## 7 Appendix

### 7.1 Author Details

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### 7.2 Disclaimer

The document is personal point of view and approach of author without any financial or non-financial benefits. Neither it reflects any views from any of organizations with whom author has worked or is working.

It is suggestive in nature and its use is not commercial, neither it recommends any action from any industry stakeholders, instead its expression to TRAI for its pre-consultation paper.