

CLOUDSHOPE TECHNOLOGIES PRIVATE LIMITED



Comments on Enabling Unbundling of Different Layers Through Differential Licensing

Network, Spectrum and Licensing

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1 Introduction

This document contains the comments on “Enabling Unbundling of Different Layers Through Differential Licensing”.

We have seen a very strong government initiative to regularize and formalize the telecom sector in India. We welcome these initiatives. These initiatives will empower entrepreneurs to take innovative approach to solving the real world problem. Business communication has always been a challenge throughout the world. And every country has taken their stand in allowing the innovative solution to consumer.

In this document we will answer to questions asked in pre-consultation paper and throw more light on the real world industry use cases. Some of them are being implemented by changing the architecture of the product to stay within the government boundaries and others are simply not implemented as they are not within the legal boundaries (Network to IP calls). We will try our best to state some of real world industry usecase so that in new licensing framework such usecases can be taken care of.

2 Comments on Unbundling of Different Layers through Differential Licensing

2.1 Q1.

In your view, what could be the possible benefits and anticipated problems in having an unbundled licensing regime? Kindly suggest the measures that can be taken to overcome the anticipated problems (if any).

Answer: Unbundling of different layers will be very helpful for the overall growth of the sector there will be no problem provided we have through discussions on all aspect before finalizing it.

Benefits of having unbundled licensing regime:

2.1.1 Removes Limitation of Network Service Provider:

It is not possible for a Network Service Provider to provide low level business services customized to the industry specific need. We need industry and telecom experts to design industry specific Telecom products that can work with best efficiency and ease business communication. There are no industries which do not have business communication. So it ideally impacts all industries. There are companies who want to tailor the raw telecom product to industry specific usecases. Such decision of having Different license of each layer will ease development of such products and will foster the industry growth.

2.1.2 Efficient utilization of the allocated spectrum:

Efficient utilization of the allocated spectrum to maximize profits is one of the core goals of Network Service Provider. Network service provider will love to have a service delivery layer in between them and the end business consumers, which can optimize the spectrum utilization. There are several business usecase from telecom perspective **[Explain in section 3]**. If a business consumer just need 30 SIP channel lines for 5 days a month(Say from 1st to 5th of every month), say for monthly recharge reminders and another business user need 20 SIP lines for another days let's say (10th to 30th of every month). Network service provider have to make sure that he reserve at least 60 lines , 30 for each customer, because he do not actually know their usecases. Adjusting the SIP channel lines on per day basis is also not possible due to very complex nature of this task. A service delivery operator sitting in between the Network Service Provider and the End Business customer can easily develop innovative solution to optimize the scenario by allocating only 30 SIP channels from Network Service Provider. Network Service Provider will not lose revenue as the number of calls going through their network in still the same. Since customers are sharing the SIP lines their cost will be minimized. It's a WIN-WIN situation for all. We just optimized the spectrum usage and allowed more customers to come in.

2.1.3 Enabling one time use cases:

[Explain in section 3]

When any organization for Example Department of Agriculture & Cooperation and Farmers Welfare, want to conduct a training for registered farmers on some small specific topic on some particular date using outbound calls. Such use case is impossible without a service delivery operator between Network Service Operator and the organization. The Organization does not have in-house telecom experts to enable these use cases nor does it make sense to have it as it's a onetime use case. The organization will also not like to procure a lot of telecom resources (May be around thousands of SIP lines) for this one time use case. It also does not make sense for Network Service Provider to allocate that may lines for a day. Even if they both agree to do so then also availability of expert man power to handle the campaign is still missing. Service Delivery Operator can take resources in bulk from Network Service Provider and retail it to end business consumers, by wrapping up the resources in the industry specific flavor. For example in above case a portal can be given to a organization from where they can send outbound calls to their registered farmers by simply uploading a clip and the farmers numbers to the portal. The service delivery operator will take care of all the technical and non-technical aspects of this campaign.

2.2 Q2.

In case it is decided to unbundle the different layers of licensing, (a) what should be the different layers and their scope? What changes would be required in licensing regime to enable such a framework? 12 (b) Should there be a new regime of licensing on which the existing licensees should migrate within a specified time frame or there should be a parallel incentivized licensing regime for unbundled layers of license?

2.2.1 Different Layers of license:

- Network Infrastructure Provider (NIP)
- Network Service Provider (NSP)
- Service Delivery Operator (SDO)
 - o Cloud Service Delivery Operator (SDO)
 - o Non-Cloud Service Delivery Operator (SDO)

2.2.1.1 Network Infrastructure Provider (NIP):

NIP will be responsible for providing the network infrastructure components. NIP can allow their components be used by NSP to create a reliable fail proof network with Omni presence. NIP will own the base hardware components and spaces to lay down any of the network component. NSP can use their components and spaces to create a strong network. If NSP innovate or want to have any specific component that can boost the network, they can also add their custom components to their network in the spaces provided by NIP. So the base components like Towers, Tower spaces and other core infra components which are capital intensive will be provided by NIP.

2.2.1.2 Network Service Provider:

NSP will use the components provided by NIP to create a strong network. NSP will be responsible for spectrum that will be allocated to NSP from government. All network related issues will be the core responsibility of NSP. NSP can service the end consumer directly and can also tie up with Service Delivery Operator to provide industry specific customizations and take advantage of new innovations.

2.2.1.3 Service Delivery Operator:

SDO will be responsible for taking telecom resources from NSP and wrap the resources in industry specific customization. SDO will comprise of young entrepreneurs who are capable to creating new innovative products for ease of business communication in most efficient manner. We may like to segregate SDO in two types Cloud SDO and Non-Cloud SDO. Non-Cloud SDO are like DID franchise which have been discussed in details in VNO license. Cloud SDO are the one who deliver the services to end consumer only over cloud, there is no need to lay down any physical infrastructure. Non-Cloud SDO may be restricted to a particular geographical location but for Cloud SDO there should not be any such limitation as the services can be delivered to all India from a single Location.

2.2.2 Changes required in licensing regime

What changes would be required in licensing regime to enable such a framework?

VNO license should be converted to SDO license and should be made simpler. There are a lot of questions that are not answered in VNO license and are need by Service Delivery Operator. Some of them are below:

- Service Delivery Operator should be able to provide all telecom resources be it mobile numbers(Virtual mobile numbers, VMN), Toll Free Numbers, landline numbers, voice calls etc to all over India in a single license. These all possibilities are not covered in VNO license. VNO talk a lot about the DID franchise. Cloud SDO however do not require to distribute DID using the physical wires. They will just allocate the DID over cloud. The calls coming to these DID will be served by automated IVRS application and will be transferred to customers' agents via new network telephonic calls. So there will be two network calls merged together. So there should be a Cloud VNO license to allow usecases of Cloud SDO.
- We would like to have discussion on possibilities of enabling IP telephony linked to network telephony. What are the challenges involved in allowing a network call to pass through the IP network. Since it's off the topic here we are not going in details. But such enablement will be very helpful in creating innovative, flexible and efficient products. One usecase is, if a company has a central number for complaint management and 3 call centers in India to handle the calls. Let's say there are 10 agents in each call centers and the call policy is parallel (i.e. all agent phone rings and only one pick up the call. The one who pick up the call first is connected to the customer). When the customer calls in, he may select and option which will pass through an algorithm to decide to which call center he want to speak to. In this case 10 network calls will go to target call center and only one is matured. This leads to unnecessary peak traffic patterns and utilize a lot of telecom resources and at the end only one call is connected. If the call is allowed to pass through IP then an IP to IP call can go to target call center and then a local call to all 10 agents can go. Thus, optimizing the whole flow.

2.2.3 New Regime

Should there be a new regime of licensing on which the existing licensees should migrate within a specified time frame or there should be a parallel incentivized licensing regime for unbundled layers of license?

We prefer to have a new regime of licensing on which existing licensees should migrate within the specified time frame and other who want to apply for license can directly apply under new license regime. Parallel incentivized licensing regime will make it even more complicated to scale.

2.3 Q3.

In case you are of the opinion that there is no need of unbundling of different layers of the license, what changes should be made in the existing licensing regime to (i) promote sharing to increase utilization of the existing resources, and (ii) catalyse investments and innovation in Digital Communications sector?

- We are in favor of unbundling of different layers of the license to allow creative minds in India to create unique innovative products without any fear.

2.4 Q4.

What other reforms / changes are required in the existing licensing regime?

- Cloud VNO License and allowing network to IP calls for valid usecases
As in section 2.2.2 Cloud VNO license should be provide to Cloud Telephony Providers.

3 Industry use cases

3.1 Education

3.1.1 IVR

School needs IVR services for proper communication with parents and students. Even parent teachers' communication can be automated using smart time based connection algorithms.

Since small schools will not get a lot of calls procuring multiple PRI lines may go beyond their budget. Also at peak times the PRI lines may be insufficient to handle all calls and at non-peak time they will be getting extra bill for unused PRI lines.

Using Cloud SDO the same usecase can be delivered at one tenth the cost and thus enabling even a small school to automate communications.

3.1.2 Bulk communication Message

School often needs to give messages to Parents related to their ward in school. There are a lot of usecases where such bulk communication need to be automated to save human efforts and sometime it's even possible for humans to deliver this information to all parents in very less time frame , let's say in few minutes.

Cloud SDO can be used to cater to this emergency telecom service requirement on the fly and allow and allocate telecom resources to school for some time till the information is being delivered to all parents.

3.1.3 Transactional Information Communication

Transactional information like fee reminders, fee receipts, event registration confirmations etc need to be communicated to parents in most cost effective manner.

Cloud SDO can easily provide API that can be linked to School system that can help in automatic information delivery on particular events to relevant stakeholders.

3.2 Hotel Industry

3.2.1 IVR

There are a number of small and big hotels in each locality in India. Food delivery network like Zomato and Swiggi have really helped these hotels to leverage the power of Technology. Good hotels get a lot of calls during peak time which is generally in evening. Often hotels get multiple numbers printed on their marketing channel so that customers can call on other number if one is busy. Its pain for both hotel owner and the customer who do not know which number is free at that time.

As a solution Hotel need a central IVR number where all customers can call and the available agent can pick the call and receive the order. But the traditional IVR setup cost and its maintenance is far beyond the capabilities of such small and medium hotels.

Cloud SDO can allocate an IVR number to hotel and build their custom IVR flow as per their need and evening is the time when most offices are closed so the existing bandwidth with Cloud SDO can be used to serve the Hotel Customers.

A lot more hotel industry usecases can be listed that can be very easily solved by Cloud SDO.

3.3 Government Use cases

There is a lot of usecases even in government sector where Cloud SDO can help. For example

- Monitoring of Mid day meal scheme: Send a automated IVRs call to all stakeholders in school on daily basis and take report of the day and escalate issues if any.
- Give training to Farmers for new farming techniques
- Promote about new government scheme
- Take registrations for specific scheme from citizens by just giving a missed call on toll free numbers in return of the missed call an automated call will get further information from citizen.
- Set up a call center solution for a small locality (may be a small town or village), where the body do not have a lot of budget to hire call center executives and invest a lot on telecom resources.

A lot more usecases are there where cloud SDO can enable a lot of innovative usecases and generate more revenue to Network Service Provider.

3.4 Generic Usecases

- Get group conference calls of all territory managers of a startup every month.
 - o Startup will not like to invest on implementing complete conference technology for using the technology just for 1 day a month. Instead Cloud SDO telephony solutions can be used for 1 day and pay for what they use.
- Automated failure calls to administrator when something needs immediate attention. This can be used at a lot of places where technical failures are not acceptable like, automated call to service engineer when a mobile tower is down due to any technical reason, automated call to service electrician when electricity fails even after backups were at place, emergency call to security officer when temperature goes beyond the threshold limit etc.
 - o Cloud SDO can provide critical API for all such usecases where a critical call with automated failover goes out in case of emergency.
- Small call centers (With 1,2 agents) who do not afford dedicated channel lines but a professional welcome experience is to be given to the caller
 - o Cloud SDO can provide mobile number or toll free number hosted on Cloud SDO Data center and calls can be routed through network service provider such that the professional end user experience can be delivered.
- Customer and Agent communication without letting each other know the number of each other. A lot of examples are there in industry, a delivery boy need to talk to customer, a company sales man want to talk to company customer without showing his number to customer, in Ola/Uber a passenger want to talk to the driver. In all such cases numbers need to be hidden from each other.
 - o Cloud SDO can provide API which can be hit by the application which generated two calls, one connect to agent and other to customer so that both can talk to each other without knowing the numbers of each other.
- Conduct survey
 - o Cloud SDO can help in conducting SMS or voice based survey on target market

A lot more use cases are there which ask for the existence for Cloud SDO to enable innovative and efficient usecases that can change the way of business communicates. It will boost up the industry and generate more revenue.