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March 03, 2023

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Subject: **Zoom India's** response to TRAI's Consultation Paper dated January 13, 2023 on Telecommunication Infrastructure Sharing, Spectrum Sharing and Spectrum Leasing.

Dear Sir,

With reference to the above consultation paper please find our response mainly seeking sharing of resources **to help new operators to start/provision services.** The main topics are below and detailed in the following pages **and these kinds of sharing are already prevalent in many countries.**

1. A UL License should be allowed to operate as VNO of the respective authorisation.
2. Infrasharing by new niche technology operators with incumbent operators in converse VNO model which will help in wider of reach of services.
3. Voice Interconnect Exchange. A NLD Operator should be allowed to offer Voice Interconnect Exchange services to new operators by charging a carriage fee to new operator in first 2 years which will allow new operators to use NLD PoI for Intracircle/Local Calls.
4. MNP Query/Dipping to be supported by MNP Operators as per license agreement with DoT and TRAI to prescribe tariff.
5. Nationwide AS License which will make sharing easy.
6. Data Storage on Indian Cloud Service Providers.

We request Authority to consider above **to help new operators to expedite their rollouts.**

Thanking You,
For and on behalf of ZVC INDIA PRIVATE LIMITED (UL Licensee)

DINESH K SHIV

Digitally signed by DINESH K SHIV
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(Authorised Signatory)
DINESH K SHIV, Head Of Telecom Compliance

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Summary:

1. A UL License should be allowed to operate as VNO of the respective authorisation.
2. Infrasharing by new niche technology operators with incumbent operators in converse VNO model which will help in wider of reach of services.
3. Voice Interconnect Exchange. A NLD Operator should be allowed to offer Voice Interconnect Exchange services to new operators by charging a carriage fee to new operator in first 2 years which will allow new operators to use NLD Pol for Intracircle/Local Calls.
4. MNP Query/Dipping to be supported by MNP Operators as per license agreement with DoT and TRAI to prescribe tariff.
5. Nationwide AS License which will make sharing easy.
6. Data Storage on Indian Cloud Service Providers.

Q2. Should other active infrastructure elements deployed by service providers under various licenses/ authorizations, which are not permitted to be shared at present, be permitted to be shared among licensees of telecommunication services?

1. **A UL License should be allowed to operate as VNO of the respective authorisation. A clarification may be issued in this regard as it has been envisaged in the TRAI recommendation: Enabling Unbundling of Different Layers Through Differential Licensing Dt 19Aug2021.**

*Page 50 Recommendations 3.5: The Authority recommends that **since the combined scope of Access Network Provider and UL-VNO (Access service) is equal to the scope of a Licensee with Access Service authorization under UL,** the Minimum Equity, Minimum Net worth, Entry Fee, and FBG/PBG requirements for the proposed Access Network provider authorization may be arrived at by deducting the amounts prescribed for UL (VNO–Access Service) from the amount prescribed for UL-Access Service authorization.*

As envisaged by TRAI a UL Entry Fee already includes 2 components 1. Access Network Provider and 2. UL-VNO (Access service) and A UL License should be allowed to operate as VNO of the respective authorisation by intimation without any additional fee or authorisation.

2. **Converse VNO (Infrasharing):** **New UL operators have entered India with New Technology and New Services which can be leveraged by existing Incumbent operators who have Network and Reach. This is a converse of the VNO Model.**

New Technology Operator's will host Incumbent Operators Numbers and provide Application Services like PBX/CCPS/HCCPs as envisioned in TRAI Recommendation Paper for OSP 21st October 2019. Incumbent Operator will use their transport and bill and provide the service to their customers and the application layer will be provided by the New Technology Operator.

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Table of Resources to be shared in the 2 Models 1: VNO Model 2: Converse VNO

	1. VNO Model	
UL1 Parent Host	**Pure VNO Child**	**UL2 as VNO Client**
UL License1 (Parent Host NSO) : MSC, IMS Core, IP-PSTN Mixing, Number Resources, Interconnection, Legal Intercept, Security	**Pure VNO (Child-Client)**: Resell UL Licensee services (numbers of UL License in case of Numbered Services) but responsible for KYC, Customer Acquisition, Billing & Customer Care; Invest in Passive Infra like BTS to extend coverage	**Similarly a UL License2 (Child-Client)** : should be allowed to operate as VNO of UL License1 by intimation without any additional entry fee or authorisation

	2. Converse VNO Model (Sharing Between 2 ULs Host - Client Model)	
UL License1 (Host/Server NSO) : MSC, IMS Core, IP-PSTN Mixing, ~~Number Resources, Interconnection,~~ Legal Intercept, Security to self and support to Client		**UL License2 (Client)** : Number Resources, Interconnection, Legal Intercept, Security; KYC, Customer Acquisition, Billing & Customer Care;

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3. Interconnect Exchange/Neutral Tandem (by an existing NLD Operator):

Q1. Should passive infrastructure sharing be permitted across all telecommunication service licenses/ authorizations? Kindly justify your response.

Carriage of calls is sharable by nature and neither falls under active or passive. However, there is need to make carriage more shareable.

Consultation Paper on
Review of the Regulatory Framework for Interconnection
New Delhi, 21.10.2016

K- Interconnect Exchange

2.33. With a view to solve problem of interconnection and ensure effective interconnection, one option could be to establish an Interconnect Exchange. The Interconnect Exchange will provide interconnection ports to all variety of TSPs and, in turn, it will reduce the number of POIs. Under such a scenario, the existing peer-to-peer interconnection may continue as before; however, all new augmentation of ports may be mandated to be done through Interconnect Exchange. Options could be explored to create a new licensee as has been done in case of mobile number portability (MNP) to operate Interconnect Exchange.

2.34. It is worth pointing out that the latest NLD authorization in the UL permits an NLDO to carry intra-circle (local) traffic upon mutual agreement with a TSP. This enables an NLDO to act as a transit provider and potentially many NLDOs can establish Interconnect Exchanges.

The current interconnect regime as insisted by incumbent operators requires new operators to have with arrangement with 6 operators and of 3 types (Local, NLD, ILD) requiring 18+ interconnects per Circle. Now multiply this for 22 Circles which is close to 400 Interconnects. **TRAI had rightly envisaged Interconnect Exchange (Neutral Tandem) as a service by NLD operators in its earlier consultation paper.** A new operator (interconnect seeker) is required to bear cost in the first 2 years. Now that IUC is 0 for all Local/NLD there are no issues of inter operator IUC settlement.

A new operator (interconnection seeker) should be allowed to receive/send both Local/NLD calls with a existing preferred NLD operator. Other operators can send/receive calls to this preferred operator. The New Operator and the Preferred NLD operator can work out commercial arrangements for carriages not exceeding tariff prescribed by TRAI for carriage. Other operators should not have any issue for sending or receiving calls through this preferred operator as there is no gain or loss to incumbent operators to send or receive calls from the Preferred operator. This arrangement should be allowed in the first 2 years for the interconnection seeker (new operator) as cost is borne by Interconnect seeker for both outbound and inbound calls.

As more and more calls are becoming app-based calls going outside network has steadily reduced. Until a new operator reaches a certain volume of calls it does not justify building multiple interconnects.

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This is not a proposal to build Interconnects, while it takes time to get Interconnect agreements, order circuit and build interconnects the above will allow new operators to start their business in the first two years. By end of two years operators can establish interconnects where it justifies volumes and low volume traffic can continue through a Interconnect Exchange/Neutral Tandem (any NLD Operator who can facilitate).

OR Ideally 2 or 4 Interconnects with each operator is sufficient based on operator's needs.

Reference: Reliance JIO response to Ease Of Doing Business Page 4; Clause 5b (Unification of Unified License (UL) Regime): For Pan India operations, the truly unified license should be nation-wide license with an umbrella authorization of offer telecom services with a simple and national compliance mechanism as well as for the purpose of call routing and interconnection at national level.

Location of switches and other network elements DoT Amendment No 20-355/2021 AS-I Vol-V Dated 23rd June 2017.

2017

This above amendment was a revolutionary inline with One Nation One License concept. Many non-mobile operators have taken advantage of this amendment and consolidated their switching between 2-4 locations based on their size of operations. (and some mobile circles are regionalized). To make full benefit of this provision and to reduce the cost Interconnects/PoI can be reduced to 2-4 for entire country. For new operators 2 PoI - Points of Interconnection is sufficient. Similar to the Division of 22 Circles in to 2 MNP Zones 1 Interconnect with all operators in each zone is more than sufficient. Larger operators can consider 4 PoI - Points of Interconnection to support the 4 regions in the country.

A local interconnection will guarantee a 0-Zero Cost handoff off calls as per TRAI regulation, but if operators would like to exchange outside the circle it should be allowed based on mutual agreements which may involve a carriage fee for handoff outside the circles

4. MNP Query/Dipping to be supported by MNP Operators as per license agreement with DoT and TRAI to prescribe tariff. (Ancillary to Interconnection).

Each operator building a MNP DB is expensive to build and maintain; TRAI should allow Licensed Operators to Dip from the existing 2 MNP operators by charging a dipping fee. MNP operators have agreed to provide the service in the MNP agreement signed with DoT but do not provide the service. Currently daily porting data is transmitted by a secure link free of cost and same/similar link can be mandated for dipping at a fee prescribed by TRAI.

A Interconnect Exchange/Neutral Tandem operator (NLD operator) can offer Query/Dipping this as a service to licensed operators

OR

When operators place a call to a NLD Operator without LRN, NLD operator can dip their MNP DB and complete the call using the LRN information with their database. It can be value added service by NLD operators.

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5. Nationwide AS License:

Geographic boundaries related to sharing can be minimized allowing Nationwide Operators to have Nationwide AS License.

Issues of coverage/access/location of users and other challenges were faced in case of Audioconferencing Service (covered under AudioTex/Voicemail Service which was SDCA based). DoT has issued an amendment treating it as Nationwide Service. Similarly, a Nationwide option should be extended to Internet Telephony Operators who want to cover the entire Nation (all AS Circles) by collecting the Max Entry Fee of 15 crores.

Also as in the UL regime spectrum has been delinked from the license a provision to obtain AS Nationwide should be allowed by paying the Max Entry Fee of 15 crores. Its One India One License for entire Geography. (Current system of Circle/State wise can continue for smaller operators), similar to ISP A,B,C.

6. Data Storage on Indian Cloud Service Providers.

Operators would like to leverage availability of Data Storage provided by Indian Cloud Operators (companies registered in India) which may be efficient and scalable for some datasets. Even though there is no prohibition of storing data in the Cloud, Operators may face challenges at inspections as it is a Novel concept to Inspection personnel. An advisory from TRAI to support Cloud data storage as long it is stored in India and meets the India Data requirement would be helpful.

THANK YOU

For ZVC INDIA PRIVATE LIMITED

Authorised Signatory, Dinesh K Shiv
Head of Telecom Compliance