



March 22, 2024

Shri Akhilesh Kumar Trivedi,
Advisor (Networks, Spectrum and Licensing),
Telecom Regulatory Authority of India,
Mahanagar Doorsanchar Bhawan,
Jawahar Lal Nehru Marg
New Delhi -110002

**Subject: Tata Communications Limited comments to TRAI Consultation Paper on
'Connectivity to Access Service VNOs From More Than one NSO'**

Dear Sir,

This is with reference to the TRAI Consultation Paper No 02/2024 dated 23-02-2024 on
'**Connectivity to Access Service VNOs From More Than one NSO**'.

In this regard, please find enclosed herewith Tata Communications Limited's comment for your
kind consideration as Annexure.

We request you to kindly consider our submission while finalizing the recommendations and
would be happy to provide any additional information, if required.

Thanking You.

Yours Sincerely,

Alka Selot Asthana
Vice President and Head Regulatory Affairs
Tata Communications Limited,
(Authorized Signatory)

Enclosed: As mentioned above

TATA COMMUNICATIONS

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**Tata Communications Limited's response to TRAI Consultation Paper on
'Connectivity to Access Service VNOs From More Than one NSO'**

At the outset, we thank TRAI for providing us an opportunity for submission of comments on this important consultation paper issued basis DoT reference dated 07.07.2023 wherein DoT has requested TRAI to provide its recommendations only limited to the following issues in respect of connectivity to access service VNOs from more than one NSO:

- (i) Appropriate number of network service operators (NSOs) with whom virtual network operators (VNOs) having Access Service authorization and providing wireline services can be permitted to take connectivity in a licensed service area (LSA); and
- (ii) VNOs having Access Service authorization and providing both wireless and wireline services can be permitted to take connectivity from one NSO for wireless services and other NSO for wireline services in an LSA.

Tata Communications is an incumbent International Long-Distance and Internet Service Provider, presently holding Unified License with ILD, ISP-A, NLD and M2M Service Authorizations. Tata Communications Subsidiary "Tata Communications Collaborations Services Pvt. Ltd." also holds UL-Audioconferencing Pan India License. To further strengthen its offerings for Enterprises and Industry verticals, Tata Communications had obtained UL- VNO Pan-India license with various Service Authorizations including Access Service on 26.11.2021 and accordingly entered into a VNO-NSO agreement with Tata Teleservices Limited and Tata Teleservices (Maharashtra) Limited and commercially launched wireline access services for Enterprise customers in various service areas in a phased manner. However, the present UL-VNO licensing framework has restrictions that the UL-VNO-Access Service Licensee can get parented only to one NSO having Access Service Authorization in the Licensed Service Area (LSA), thereby prohibiting level playing field with UL(AS) licensees in B2B market.

As per Unified License clause "1.3 (ii) There would not be any restriction on the number of VNO licensees per service area. VNOs are allowed to have agreements with more than one NSO for all services other than Access service and such services which need numbering and unique identity of the customer. For wire line access services through EPABX, the connectivity of different NSOs shall be governed by the Terms & Conditions of respective service authorization as mentioned in PART-II of the Schedule to the License Agreement or as per the directions/ instructions issued by the Licensor from time to time."

As per above license clause, UL-VNO-Access Service Licensee can get parented only to one NSO having Access Service Authorization in the Licensed Service Area (LSA). The exception provided is only in case of wireline access service providers providing access services through EPABX wherein in a LSA, for such services, at different EPABX, they can get parented to different Access Providers.

The restriction prescribed seems to ensure that a VNO cannot resell Access services of two NSO (Access Service providers) networks in the same LSA avoiding situation of VNO becoming more diverse in its service offerings than its parent NSOs.

Moreover, Access services has two distinct parts being wireline access services and wireless access services. In such a case, VNO should be permitted to have wireline access services and wireless access services from different NSOs in the same LSA as it would not impinge upon the principle of putting such restriction.

There are other UL-VNO (AS) licensing issues impacting the growth of the UL-VNO licensees and disturbing level playing field with UL (AS) licensees. Although these other issues are not covered by TRAI in the present consultation paper due to the limited reference received from DoT, however, it is earnestly requested TRAI to kindly consider our submissions made on these other issues as well mentioned in our response while finalising its recommendations on this subject. The other issues are listed as follows:

other issues are as follows:

- Allow UL-VNO (AS) to resell 5G services of its parent NSO and scope of UL-VNO (AS) license should be amended accordingly.
- UL-VNO (AS) License scope of service should also enable Licensee to offer CNPN as service to its Enterprise customers.
- Allow VNO-Access Service or VNO-ISP to use its own IP addresses also for provision of services.

With the above submissions, we are hereby providing our inputs on the issues raised in the Consultation Paper:

Q1. In your view, what is the maximum number of Network Service Operators (NSOs) from whom a UL (VNO) licensee holding Access Service Authorization should be permitted to take connectivity in a licensed service area (LSA) for providing wireline access service? Kindly provide a detailed response with justification.

And

Q3. Whether a UL (VNO) licensee holding Access Service Authorization in an LSA should be permitted to take connectivity from one NSO for wireless access service and other NSO(s) for wireline access service in the LSA? Kindly provide a detailed response with justification.

Tata Communications Response to Q1 & Q3:

- We understand that the objective of the restriction prescribed in the UL-VNO License is to ensure that a VNO cannot resell Access services of two NSO (Access Service providers) networks in the same LSA avoiding situation of VNO becoming more diverse in its service offerings than its parent NSOs. It is pertinent to mention that Access services has two distinct parts being wireline access services and wireless access services and therefore UL-VNO (AS)

licensee should be permitted to have wireline access services and wireless access services from different NSOs in the same LSA as it would not impinge upon the principle of putting such restriction.

- In our view, there should not be any restrictions for UL-VNO (AS) Licensee for parenting with single NSOs for seeking connectivity in a licensed service area for providing wireline access services and wireless access services, similar to other service authorisations in UL-VNO wherein no such restrictions are imposed and same has been left to the market forces. Accordingly, UL-VNO (AS) should be allowed to get parented to any number of NSOs within the same LSA provided UL-VNO (AS) maintain separate records and steps to ensure appropriate reporting of revenue and disclosures to end customers.
- The network connectivity / resource requirement is purely dependent upon the business model and network design of UL-VNO licensee. Therefore, there should not be any regulatory restriction imposed for UL-VNO licensee for seeking connectivity from more than one NSO in the same LSA for wireline access services and wireless access services.
- Such flexibility for UL-VNO licensee will also ensure less dependency for VNO on a single NSO in the LSA. Allowing UL-VNO licensee to take network service from multiple NSOs in a same LSA will promote healthy competition in the access service market and will encourage innovation in services, billing, service delivery & service quality which will result in more choice and benefits to end customers.

Q2. In case your response to the Q1 is a number greater than one, what should be the associated terms and conditions for permitting such connectivity? Kindly provide a detailed response with justification.

And

Q4. In case your response to the Q3 is in the affirmative, what should be the associated terms and conditions for permitting such connectivity? Kindly provide a detailed response with justification.

Tata Communications Response:

- As submitted in our response to Q1 & Q3, we reiterate there should not be any restriction for UL-VNO (AS) licensee to parent with more than one NSO in the same LSA for both wireline access service and wireless access services in any manner. The flexibility will bring more options for UL-VNO (AS) licensee to take connectivity from NSOs to meet its business requirements thereby enabling UL-VNO (AS) licensee to provide better services in a more affordable manner to its customers.
- Regarding the associated terms & conditions for permitting such connectivity, we wish to submit as follows:

- The UL-VNO (AS) Licensee need to ensure internal arrangement for segregation of Services / infrastructure obtained from different NSOs in same LSA for the purpose of offering Wireline Access services and Wireless Access services.
- The Telecom Network infrastructure obtained from Wireless Access Service Provider should be used only for wireless access services and it is technically feasible for ensuring that same will not be integrated with existing NSO (Wireline Access Service Provider) infrastructure in the same LSA.
- Number resources being a distinct number series format for both wireline access services and wireless access services, such number resources should be used separately and correct configuration in the billing & other systems for customers of both the services should be ensured. Similarly, separate network codes of NSOs will be utilized.
- Equipment capable for monitoring facilities of Wireless Access Service NSO will be used as a part of NSO' responsibility. Similar arrangement has been done with existing Wireline Access Service NSO for complying with monitoring / interception requirements.
- Adequate steps should be taken for separate identification of Wireline Access NSO and Wireless Access NSO. Respective NSOs will be tagged with a distinct identifiers like 'Service ID' and billing individually to end customers parented with them.
- In case of offering bundled Wireline and Wireless Access service to end customer by UL-VNO (AS) licensee, common COF may be taken from Customer clearly mentioning Wireline Access and Wireless Access services separately and single billing invoice with separate line item for Wireline Access and Wireless Access services should be raised.
- In backend systems, revenue will be accounted under a separated unique 'Profit Center' for both type of access services for ensuring segregation of the revenue between Wireline Access and Wireless Access services along with separate mention of NSOs for the purpose of calculating AGR and License Fee (LF).
- Similarly, separate PO based billing arrangement will be done with each NSO for using their infrastructure to ensure separate calculation of Pass-thru charges and audit trail being maintained in the billing system for LF assessment purposes.
- All records (CDRs / IPDRs), sys logs pertaining to both wireline and wireless access services should be stored separately for each NSO with the logical partitioning with a mechanism of retrieval in a time bound manner.
- In case, UL-VNO (AS) licensee offers Internet Access Services using network infrastructure from either Wireline Access NSO or Wireless Access NSO, separate IP Addresses resources should be obtained from both the NSOs and ensure that their

individual separate networks carrying distinct AS numbers for maintaining complete segregation of their network resources.

- The IP addresses taken from ISP NSO for providing internet service under UL-VNO Internet Service Authorization are being managed by respective NSOs themselves and similar arrangement will be done with Wireless Access NSO.
- It is proposed that the customer grievance redressal system should be common for both Wireline Access and Wireless Access services offered to customers.
- UL-VNO (AS) licensee having connectivity from more than one NSOs, reporting requirements for both Wireline Access and Wireless Access services should be complied with and carry out necessary changes, if any to be done in the billing and other related systems for meeting the reporting compliance.
- NSO should be mandated to charge for infrastructure and network services provided to the parented VNOs on non-discriminatory basis to bring fair play in the market.
- For emergency services the UL VNO should be allowed to route the call through wireline NSO or wireless NSO.

Benefits which we foresee for allowing UL-VNO (AS) for parenting with multiple NSOs:

- More flexibility and choice to VNOs: VNO can combine wireline and wireless access service options and better meet the diversity needs of end customers. This is critical for Enterprises and businesses to ensure service availability and uptime for their businesses and be able to service their end customers.
- Better diversity will lead to improved resilience – Having redundant wireline or wireless services from different NSOs will ensure service SLA guarantees by VNOs to end customers due to increased network resilience and reliability also. This will reduce the risk of service disruption for customers.
- Wider network coverage – as covered in response to Q1 & Q3, VNO will also get wider coverage through connectivity with multiple NSOs and be able to serve its end customers more efficiently in the LSA(s).
- Increase investment in infrastructure – Such a flexibility will also encourage NSOs for further investments in infrastructure building across various LSAs as they will have a healthy competition to attract and retain VNO partnerships with different VNOs.

Q5: Whether there are any other relevant issues or suggestions related to the parenting of licensees holding Access Service Authorization under UL (VNO)? Please provide a detailed response with justification.

Tata Communications Response:

Regarding parenting of licensees holding Access Service Authorization under UL (VNO), we wish to submit the following suggestions which are as follows:

- On the cross-holding restriction, the UL-VNO license states the following:
“1.3 (ii)..... In UL (VNO) the provision for restriction of equity cross holding will be applicable between (i) a VNO or its promoter(s) and another NSO (other than VNO’s parent NSO) or its promoter(s) and (ii) between a VNO or its promoter(s) & another VNO or its promoter(s), authorized to provide access service using the access spectrum of NSO(s) in the same service area. This restriction will not be applicable in case of VNOs parented to the same NSO.”

The above license conditions have prescribed two type of equity restrictions:

First Equity restriction: First equity restriction is applicable between a VNO or its promoter(s) and another NSO (say NSO-A) (other than VNO’s parent NSO (say NSO-B)) or its promoter(s). It means that there cannot be any common equity between a VNO and NSO other than parent NSO of the VNO. This restriction is imposed with the intention to avoid two common equity group companies from using access spectrum of two NSOs thereby compromising competition. Ideally this restriction should be made applicable only in the case where both the NSOs in the first restriction hold access spectrum.

In view of the above, we request TRAI to kindly clarify that the said equity restriction applies only in case the parent NSO and NSO other than parent NSO hold access spectrum.

Second Equity Restriction: Second equity restriction is applicable between a VNO or its promoter(s) & another VNO or its promoter(s), authorized to provide access service using the access spectrum of NSO(s) in the same licensed service area and restriction is not applicable if two VNOs are parented to the same NSO. Thus, between Tata Communications and Tata Play as two VNOs having common equity, equity restriction is not applicable if both Tata Communications and Tata Play are parented to same NSO (Tata Teleservices).

In our view, if two VNOs (with same promotor(s)) are parented with one NSO for providing wireline access services, and with another NSO for wireless access services in the same LSA, in such case, the given equity restriction will not apply as there are two distinct NSOs providing their infrastructure to these VNOs for different services.

- The definite time period should be prescribed for closure of the VNO-NSO agreement for enabling VNO to commence services in a time bound manner for facilitating seamless services to end its customers and interoperability between networks.
- The NSO should offer fair & transparent pricing to VNO which should be competitive and based on the principle of non-discrimination and non-predatory in nature. It is recommended that for a single LSA, multiple NSOs should be similar or same pricing offered to one VNO.

- Dispute resolution process and mechanism – There should be framework for ensuring speedy & time-bound (90-180 days) resolution of VNO-NSO disputes, if any.
- All compliances from a regulatory requirement perspective must be adhered to and complied with by both VNO and NSO.

There are other UL-VNO (AS) licensing issues impacting the growth of the UL-VNO licensees and disturbing the level playing field with UL (AS) licensees. Although these other issues are not covered by TRAI in the present consultation paper due to the limited reference received from DoT, however, it is earnestly requested TRAI to kindly consider our submissions made on these other issues as well mentioned in our response while finalising its recommendations on this subject.

These issues are listed as follows:

- **Allow UL-VNO (AS) to resell 5G services of its parent NSO and scope of UL-VNO (AS) license should be amended accordingly.**
And
- **UL-VNO (AS) License scope of service should also enable Licensee to offer CNPN as service to its Enterprise customers.**

Response: We wish to submit that the Scope of UL-VNO-Access Service Authorization should be aligned with UL Access service authorization to enable UL-VNO (AS) licensee to resell 5G services of its wireless access service NSO(s) including Captive Non-Public Network Service under UL-VNO License for serving Enterprise Customers.

It is pertinent to mention that with the advent of 5G and its support for new use cases, the scope of Access Service for UL (Access Service Authorization) licensee has been amended for permitting them to provide CNPN as a Service to Enterprises either using its network resources (creating CNPN by network slicing) or by establishing an isolated CNPN network for Enterprises using its spectrum holding. However, similar enabling provision have not been introduced in the Scope of Access Service for UL-VNO licensees despite of the fact that the scope of Access Service of UL (Access Service Authorization) and UL-VNO (Access Service Authorization) is identical and UL VNO licensee permitted to resell services of its NSO.

It is suggested that the following proposed clauses should be added in Scope of service in the UL-VNO (Access Service Authorization) in chapter VIII clause (2) to enable CNPN Service

2.1(c) Licensee may provide Captive Non- Public Network (CNPN) as a service to enterprise(s) by using network resources of its NSO.

2.1(d) Licensee may establish isolated CNPN for enterprises using IMT spectrum assigned to its NSO for establishing PLMN. While establishing such isolated CNPNs, it will be the responsibility of the NSO of the Licensee to ensure that the prescribed QoS to their customers through public network is maintained.

- **Allow VNO-Access Service or VNO-ISP to use its own IP addresses also for provision of services.**

Response: UL- VNO is required to obtain IP addresses, domain names etc. from the parent NSO for provision of services to its customers. The relevant part of license conditions of UL-VNO license are as follows:

Clause -“2.5 For provision of Internet Telephony, Internet Services, Broadband Services and triple play, i.e. voice, video and data, the Conditions No. 2.1(i), 2.1(vii), 2.2, 5, 6, and 7 of Chapter IX (Internet Service) shall also be applicable.

Clause 2.5 (v) IP Address assigned to a subscriber for Internet Telephony shall conform to IP addressing Scheme of Internet Assigned Numbers Authority (IANA) only

Clause 5.2 For the purpose of providing the Service, the Licensee shall install, if required, its own suitable equipment so as to be compatible with the NSO(s) equipment

Clause 5.4 (Provision of Service) It will be the responsibility of the Licensee to obtain IP addresses, domain name, etc. from NSO(s).”

As per clause 5.4 as above, the UL-VNO will have to obtain IP addresses from the parent NSO and as per clause 5.2 its equipment at customer end has to be compatible with NSOs equipment. It means, that UL- VNO to use NSO IP addresses and interconnection with parent NSO network only for its IP network, thus, VNO can only sell its parented NSO’s IP services on NSO AS (Autonomous System) Number.

In our view, restriction of using IP addresses of NSO is not a reasonable restriction and should be done away with. It is also pertinent to highlight that even Enterprises take allocation of IP addresses and AS Numbers directly from the competent authority for their usage. Thus, VNO should be allowed to use non-NSO IP addresses also, as the need may arise.

Moreover, there are UL-VNO (AS) / (Internet Service) Licensee like Tata Communications who are also having UL-ISP license having their own IP Addresses, such licensees should be allowed to use their own IP Addresses to offer internet services under UL-VNO (Internet Service) authorization.

The resolution of the above issues will facilitate UL-VNO (Access Service) Licensee in serving its Enterprise customers efficiently to contribute to the industry 4.0 initiative.