



15<sup>th</sup> January 2015

**Telecom Regulatory Authority of India**  
**Mahanagar Doorsanchar Bhawan**  
Jawahar Lal Nehru Marg  
(Old Minto Road)  
New Delhi – 110002

**Kind Attn: Mr. Sanjeev Banzal, Advisor (NSL)**

**Subject: TRAI Consultation paper on 'Delinking of the License for networks from delivery of services by way of virtual network operators'**

Dear Sir,

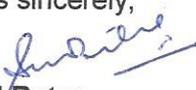
This is with reference to the Consultation paper on 'Delinking of the License for networks from delivery of services by way of virtual network operators' issued by TRAI on 5<sup>th</sup> December 2014.

Please find enclosed issue-wise comments of Tata Teleservices Limited and Tata Teleservices (Maharashtra) Limited (referred here as TTL).

We sincerely hope that our views will be given due cognizance by TRAI.

Thanking you and assuring of the best attention always.

Yours sincerely,

  
**Sunil Batra**  
**Vice President- Corporate Affairs**  
**Tata Teleservices Limited**  
**And**  
**Authorized Signatory**  
**For Tata Teleservices (Maharashtra) Limited**

Encl.: As above

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## **Response to TRAI Consultation Paper ‘Delinking of License for networks from delivery of services by way of virtual network operators’**

**Q1. (a) Is there any need to introduce more competition in service delivery by the way of introduction of VNOs in the sector? If not, why not?**

**(b) If yes, is it the right time to introduce VNOs?**

**Q2. Will VNOs pose a threat to NSOs or will they complement their operations? Justify your answer.**

**Q3. How can effective utilization of existing infrastructure be improved? Can VNOs be a solution to achieve targets defined in NTP-2012 for rural density?**

### **TTL Response:**

The National Telecom Policy 2012 envisages the introduction of Virtual Network Operator in the Indian telecom market for increase in options available at the consumer end and facilitation of resale of telecom services both wholesale and retail through introduction of virtual operators. The introduction of VNO in India will not only help in focused services in the Urban market (more than 100% tele-density) but will also help in better penetration of services in Rural areas. With vast amounts of unused bandwidth in certain geographies, and the inability to provide proper services to all market segments and niches by traditional telecom operators, it is a win-win situation with greater economies of scale and more value addition for end-customers. The introduction of Virtual Network Operators would definitely facilitate **healthy market business opportunities** and would result in efficient use of existing telecommunication infrastructures. VNOs facilitate market expansion by reaching entirely new or previously un-served/ under-served market segment or geographical areas including rural markets. VNOs are also able to offer better bouquet of services/value added services to the end customer as their focus is more on enriched customer services rather than network roll-out.

According to GSMA Intelligence report titled ‘Global VNO landscape 2012-14, as on May 2014, VNOs are most prevalent in mature markets where penetration (based on connections) has surpassed 100%. Europe has more than two thirds of global VNOs (579), followed by the Americas (128) and Asia (79). VNOs continue to support operator connections growth to varying levels and have offset declines or flat growth in organic connections in some of the global markets. Studies of global markets clearly pave way for a great potential for VNOs in India.

The introduction of the VNOs could facilitate in achieving the objectives of the NTP-2012 to increase the rural teledensity and to provide affordable & reliable Broadband on demand.

The current rural teledensity at 45% is well below the national teledensity of 77% and urban teledensity of 148%. VNOs can bridge this gap in rural & urban teledensity by servicing these new or previously un-served/ under-served market segments or geographical areas including rural markets.

VNOs would introduce innovation & new business models in the market space. VNOs can provide tailored services to niche markets which are often overlooked by traditional mobile operators. Customized services to specific demographic, lifestyle and market niches by offering a better value proposition can enrich the end customer's experience. These segments are often valuable but require specific offerings with many value added services and add-ons.

The commercial arrangements between the VNOs and the TSPs will enable the TSPs to monetize their investments in spectrum and network and also facilitate in efficient and optimal utilization of the resources.

Therefore, introduction of VNO will not only bring in healthy competition with innovation & affordability in the market, it will also facilitate proper utilisation of telecom infrastructure in underserved markets. Almost all analysts agree that the opportunity for mobile operators to take advantage of VNOs outweighs their competitive threat.

**While these are clear benefits, the present uncertainty in the Telecom Policies with respect to availability of spectrum, Merger & Acquisition guidelines, spectrum sharing & trading guidelines, need to be first addressed before efficient introduction of VNOs in India.**

**Q4. Does there exist a business case for introduction of VNOs in all segments of Voice, Data and Videos?**

**Q5. Whether VNOs be introduced in all or some of the services notified in the UL? Please name the services and the justification.**

**TTL Response:**

We suggest that VNOs should be introduced in all services including access services for voice and data and unless VNOs are provided access to all available services, it may not be helpful for overall growth and the efficient utilisation of available infrastructure.

This will also be important for the VNO to be able to design and offer unique and integrated products at a competitive price.

The premise is that VNOs will enter the market to serve niche geographies and under-served segments, restricting services may make business viability an unnecessary impediment to the success of the VNO regime.

VNO should be allowed to offer any or all of the services which are under the scope of the UL/NSO depending on the business case for the given market segment. The VNO's business as resellers should be encouraged, rather than confining them to limited services.

**Q6. Is there sufficient infrastructure (active and passive including access spectrum) available with a TSP to meet its own requirements? Can TSPs spare available infrastructure for VNOs?**

**TTL Response:**

The TSPs will have to evaluate whether there is a business case for leasing infrastructure resources to a VNO in a particular service area or not. The TSPs will be able to outsource marketing and selling of the talk-time while TSPs can retain the airwaves and network maintenance in that service area.

Although there is sufficient infrastructure available with a TSP to meet its requirements for providing services to its own customers, such operators, at times, are unable to penetrate the entire LSA or the market segments and the geographies resulting in availability of under-utilised spare capacities over its network. A good VNO regime, will provide opportunities for a VNO to create a win-win for itself, the TSPs and the marketplace (customers) by offering services by utilisation of spare capacities.

If any TSP has no infrastructure available, then it will not make its infrastructure available to VNOs. Hence it is fair market practice.

**Q7. If any TSP is able to share its infrastructure with VNOs, what should be the broad terms and conditions for sharing the infrastructure?****TTL Response:**

Since this is a commercial arrangement between a TSP and VNO to cater to newer markets/segments/better spectrum utilization, the terms & conditions between the two entities for sharing of the infrastructure should be based on mutual agreement and driven by the market dynamics.

**Q8. Should VNOs be allowed to create their own infrastructure to reach out to niche markets? If yes, to what extent?****TTL Response:**

VNOs should not be permitted to establish network infrastructure; however, they should be allowed to establish all other pieces of the infrastructure which facilitates the design and sale of services, within the scope of the definition of VNO. This would ensure that businesses are able to maximise the efficiency of their respective infrastructure to provide a differentiated, value-added service to their customers.

India is in the initial stages of the evolution and entry of VNOs and therefore, the aspect of terms of setting up/sharing/expanding of infrastructure should be left to agreement between NSO and VNO. VNOs may create infrastructure to service its customers to the extent of creating Home Location Register (HLR), billing, customer care, value added services platforms, and some VNOs may simply repackage TSP's services and issue their own tariffs and service conditions by relying almost completely on the host network's facilities with a little product differentiation.

The DoT allows the active infrastructure (except spectrum sharing) and passive infrastructure sharing. It is observed that in many of the cases, TSPs out-source their non core activities like billing, customer care etc. In such a scenario, the decision of setting up one's own infrastructure limited to billing, customer care, VAS platforms should be left to VNO and the market forces.

**Q9. Should Local Cable Operators (LCOs) or Multi System Operators (MSOs) with cable networks be permitted to share infrastructure with VNOs to provide last mile connectivity?**

**TTL Response:**

LCOs and MSOs should not be permitted to share infrastructure with VNOs for the last mile connectivity. These entities are not licensed as per Unified Licensing regime and Section 4 of Indian Telegraph Act 1885 and not covered under revenue share, security conditions etc. If permitted to play the infrastructure role, the 'skin in the game' could become too thin, which could adversely affect the Quality of Service, which in turn will compromise the age old trust associated with telecom infrastructure.

**Q10. Does the adoption of the VNO model requires an entirely new licensing regime or will a chapter or a separate section for VNOs added to the existing UL suffice?**

**Q11. Comment on what measures are required to ensure that the existing or new licensing regime takes care of future requirements of technological development and innovation and provides a clear roadmap for migration to existing service providers.**

**Q12. In view of the complexity in the existing licensing regime as explained in Para 3.16 to 3.18, Should India move towards NSO and VNO based licensing?**

**Q13. If yes, whether existing licensees may be mandated to migrate to NSO & VNO based new licensing regime? What challenges will arise in the migration to the two types of licensing framework?**

**TTL Response:**

As per the Section 4 of the Indian Telegraph Act, any entity providing a telecom service would require a license/ authorization from the Government for the same. As VNOs would be providing telecom service to the customers under its own brand which would be different from that of TSP, a license would need to be issued to the VNO under section 4 of the Indian Telegraph act.

DoT has already issued consolidated guidelines for grant of Unified License. There are cases where existing Telecom service providers have migrated to the Unified License and some operators who have taken new Unified Licenses. In the UL there is no concept of NSO & SDO instead allocation of spectrum has been delinked from the licences and has to be obtained separately. We, therefore suggest that the existing TSPs will subsequently migrate to the Unified License along with Authorisation for any one or more services listed in the UL. We do not see any necessity of changing the Licensing regime as Unified Licensing regime is still far from being stabilised. However, we strongly suggest that in the list of authorisation for various

services, there is a need to add 'Virtual network operators' as an option under each service authorisation.

**Q14. Should a VNO be issued a license at the National Level, or for LSAs as in the case of UL or should it be based on the host NSO license areas?**

**TTL Response:**

Please refer to our response above. DoT has already issued consolidated guidelines for grant of Unified License. The Licensor has given the option of both National Level or LSA-wise authorisation in the UL therefore a VNO licensing/authorisation should also be the same as per the geographic authorization in the UL.

**Q15. What should be the duration of a VNO's license? Should it be linked with the license of the NSO or should it be for 20 years, as in the case of UL?**

**TTL Response:**

We suggest that duration of the VNOs license should be of 20 years as in the case of UL as it is proposed to be an another authorization under present UL framework. The duration of VNO license should not be linked with the duration of its parent operator.

**Q16. Should there be any cap on the number of VNOs in a service area for a particular service? If yes, what should be the number? Please provide (a) service wise and (b) service area-wise numbers with justification.**

**TTL Response:**

There should not be any cap on the number of VNOs that can exist in a Service area. The sustainability of VNO's business model should be driven by market forces, with the most efficient one surviving in the long-run.

**Q17. Should there be restriction on number of VNOs parented to a NSO? Justify your answer.**

**Q18. Alternatively, should one VNO be permitted to parent more than one NSO per LSA?**

**TTL Response:**

There should be no restriction on the number of VNOs that an NSO should be able to support. It should be left to the market forces and opportunities that will drive the business viability of any particular VNO & NSO. Further, a VNO should be allowed to enter into agreements with more than one NSO in a Service area for all types of services (2G/3G/4G) it desires to provide to its customers.

**Q19. What should be the eligibility conditions for becoming a VNO?**

**Q22. What should be the financial obligations of VNOs in the form of a) Equity & Networth b)Entry Fee c)PBG and d)FBG etc.? Please quantify the same with justification.**

**TTL Response:**

Eligibility criteria for VNOs should be set in place to ensure that the market is not disrupted by too many speculative entrants with unsustainable business models and at the same time there should be an enabling regime to encourage the VNOs.

Existing licensed TSPs such as UASL/CMTS/UL licensees should also be allowed to become a VNO of other operators in the same or other service areas for any kind of service. Sunil not in agreement

**Q20. Whether an existing Unified Licensee with authorisation to provide all services shall be eligible to become a VNO of another Licensee in the same or other LSA? Or, will it need separate/additional authorisation to work as a VNO for delivering services for which it does not have access spectrum?**

**TTL Response:**

We suggest that an existing UL with authorisation to provide all services shall be eligible to become a VNO of another Licensee in the same or another LSA. Existing Licensed TSPs should be allowed to become a VNO by obtaining a separate VNO authorization for the services for which they hold existing license from DoT. They should not be subject to any further eligibility condition or any fee for obtaining VNO authorization.

**Q21. Should there be any cross-holding restriction between a NSO and VNOs? If yes, please quantify the same with justification.**

**TTL Response:**

We recommend that there should not be any kind of cross-holding permitted between various VNOs however; there may not be any kind of restriction of cross holding between a NSO and VNOs. An operator can be an NSO & (or) VNO or both for the same circle offering same or any other services.

**Q23. Should a VNO utilise numbering resources, Network Codes and Locational Routing Number (LRN) of the NSO? Or, should the Licensor allocate separate numbering resource, Network Codes and Locational Routing Number(LRN) directly to a VNO?**

**Q24. What operational difficulties could arise in the above arrangements?**

**Q25. In case your reply is that the Licensor allocates numbering resource to the VNO, then how can it be ensured that the resources allocated to a VNO are efficiently**

utilised? Should any obligation be placed on VNOs for efficient utilisation of resources?

**Q28. How can MNP be facilitated in the VNO/NSO model? Can the VNO be treated separately for MNP purposes? Or, should MNP be facilitated only through the network of the NSO?**

**TTL Response:**

After spectrum, number is a finite resource used by Access Service providers. In some countries the service providers are charged for the number blocks allotted to them. In India the numbers are allotted as per the National Numbering Plan to the Access Service providers according to their subscriber base. There are no separate charges for the same.

Further if VNOs become separate entities for number allocation, Network codes and LRN, the number of entities interacting with the centralized data base for number portability will increase. This would increase the complexity of the number portability systems. In view of the above, the VNOs should necessarily use the numbers allocated to the Mobile Network Operator. The numbering blocks allocated to a VNO should count towards utilization of the number series by the said NSO and to make the NSO eligible for further allocation of number blocks by the Licensor. Also, in case of termination of an agreement between the NSO & VNO, the un-used numbers should be returned to the NSO.

We, therefore, suggest that MNP should be facilitated only through the network of NSO.

**Q26. Should the LF and SUC applicable to the VNO be as per stipulated conditions of authorisation in UL? Or, should it be treated differently for VNO? Please quantify your answer with justification.**

**TTL Response:**

We suggest that VNO should pay both License Fee and Spectrum Usage charges on its revenue where VNO can claim pass through for the payments made to the NSO for bulk purchase of services/minutes. This would eliminate double charging of same revenues.

Since we have already suggested that in the list of Authorisation for various services, Authorisation for VNO should be added as an option and therefore both LF and SUC should be as per the stipulated conditions of authorisation in the UL.

The interconnection charges will have to be paid by the NSO to the terminating network for the calls generated by the subscribers of VNO parented by the said NSO.

**Q27. Should an NSO be mandated to provide access to its network to a VNO in a time-bound manner or should it be left to their mutual agreement.**

**TTL Response:**

Since this is a commercial arrangement between NSO and VNO to cater to newer markets/segments/better spectrum utilization, the agreement between the two entities should be mutual commercial arrangement.

**Q29. Who is to be held responsible for CAF verification and number activation, the NSO, the VNO or both?**

**TTL Response:**

Since VNO would be a Licensed entity providing Telecom services under its brand and owning these end subscribers, the VNO needs to put in place stringent processes to ensure complete adherence to Subscriber Verification guidelines and the obligation of compliance of CAF guidelines should be entirely with the VNO for its subscribers.

VNO should be responsible for CAF compliance and has to be directly subjected to the related compliance audits carried out by DoT/TERM/other external agencies from time-to-time. NSO will not be responsible for the VNO subscribers' CAF compliance/verification.

**Q30. Should an NSO or VNO or both be responsible for maintaining QoS standards as per TRAI's regulations?**

**TTL Response:**

VNO should be bound by all TRAI Regulations/Directions/Orders ensuring adherence to the QoS benchmarks for the customer facing services. However, since the network maintenance, enhancement/deployment is the responsibility of the NSO, this should be a part of the agreement between NSO & VNO to ensure compliance to the quality of network performance.

VNO should be responsible for QoS on parameters covering customer service such as billing / charging accuracy, disputes management, call centre, adjustments, fault repairs, termination within stipulated TAT, etc., whereas NSO to be responsible for network quality parameters such as BTS accumulated downtime, call set-up success rate, call completion rate, call drop rate, POI congestion, throughput, latency, etc.

Therefore, both the NSO and VNO should be responsible for maintaining QoS standards as per TRAI's regulations, for their respective subscribers.

**Q31. How should Mergers & Acquisitions be dealt with in the VNO/NSO licensing model? Should the recently announced M&A guidelines issued by the Government for existing players be extended to cover VNOs? Or, should their M&A be treated separately?**

**TTL Response:**

Merger and Acquisition between two VNOs should be allowed as they are unlikely to have significant market power since the basic VNO business model caters to niche/under- served market segments.

With regards to Merger and Acquisition between a VNO and its NSO or a VNO and any other NSO in the LSA, the merger should be guided by the existing M&A guidelines, which mandate limits on the revenue / subscriber market share for the merged entity.

**Q32. Should the VNO be treated equivalent to the NSO/ existing TSPs meeting obligations arising from Tariff orders/regulations /directions etc. issued by TRAI from time to time?**

**TTL Response:**

VNO would be a Licensed entity providing Telecom services under its brand and owning these end subscribers and offering innovative tariff products. Since VNO would be directly responsible for tariff related matters, Telecom tariff orders and all tariff related requirements should be binding on VNOs.

**Q33. Please give your comments on any related matter not covered in this Consultation paper.**

**TTL Response:**

Following additional issue needs to be deliberated before VNO regime guidelines can be finalised:

Lawful Interception and National Security need detailed deliberations. Since a VNO subscriber is owned by the VNO for services but the same subscriber is riding on the NSO's network, there is a need for a clear responsibility matrix between NSO & VNO for interception, call logs, etc to ensure there is no compromise on national security due to the introduction of VNOs.