



**Telecom Regulatory Authority of India**



**Pre-consultation paper**  
**on**  
**‘Delinking of license for networks from delivery**  
**of services by way of virtual network operators’**

**3<sup>rd</sup> September, 2014**

**Mahanagar Doorsanchar Bhawan**  
**Jawahar Lal Nehru Marg**  
**New Delhi-110002**

## **Background and Probable Issues for Deliberation**

### **Background:**

1. In 1992, the telecom services sector was opened to private participation and licences for radio paging and other value added services were issued. GSM-based cellular mobile telephony service (CMTS) was introduced in 1994/1995, and two private service providers licensed for each of the 22 Licensed Service Areas (the Government retaining the right to enter as the third operator, which later allowed the entry of MTNL and BSNL). In August 1995, Internet Services were launched by Videsh Sanchar Nigam Limited (VSNL). In 1997-98, fixed services licences were awarded to private service providers.
2. The New Telecom Policy 1999 (NTP 99), permitted the Cellular Mobile Service Providers (CMSPs) to provide, in its service area of operation, all types of mobile services including voice and non-voice messages, data services and PCOs utilizing any type of network equipment, including circuit and/or packet switches. The NTP 99 also envisaged the opening up of National Long Distance (NLD) services and International Long Distance (ILD) services. Accordingly, the Government opened NLD Services in August 2000 and ILD Services in April 2002, to private operators. Later ILDOs were permitted to provide international bandwidth on lease to resellers who are issued licence for 'Resale of International Private Leased Circuits (IPLC)'.
3. In November 2003, the Government introduced the Unified Access Service (UAS) licensing regime. It permitted an access service provider to offer both fixed and/or mobile services under the same licence.
4. In August 2013, Unified Licensing (UL) regime has been introduced through which a single UL will be issued to the eligible applicant(s)

which authorises the licensees to provide for one or more services in one or more service areas(as applicable).

### **Present Reference**

5. Now, through its reference letter no. 800-23/2011-VAS dated 7<sup>th</sup> July 2014(**Annexure**), the DoT has sought the recommendations of TRAI for delinking of licenses for networks from the delivery of services by way of virtual network operators (VNOs) including associated issues of definition of Adjusted Gross Revenue under the UL regime. It is also stated in the reference letter that the DoT had decided in 2013 that the UL may be introduced in two phases with the delinking of licensing for networks from the delivery of services being taken up in a subsequent phase.

6. The reference also quotes two clauses from the NTP 2012:

*“ 3.3. To move towards Unified Licence regime in order to exploit the attendant benefits of convergence, spectrum liberalisation and facilitate delinking of the licensing of Networks from the delivery of Services to the end users in order to enable operators to optimally and efficiently utilise their networks and spectrum by sharing active and passive infrastructure. This will enhance the quality of service, optimize investments and help address the issue of the digital divide. This new licensing regime will address the requirements of level playing field, rollout obligations, policy on merger & acquisition, non-discriminatory interconnection including interconnection at IP level etc. while ensuring adequate competition.*

*3.8 To facilitate resale at the service level under the proposed licensing regime – both wholesale and retail, for example, by introduction of virtual operators – in tune with the need for robust competition at consumer end while ensuring due compliance with security and other license related obligations.”*

7. The draft National Telecom Policy-2011 issued by the DoT, on 10<sup>th</sup> October 2011, envisaged two categories of licenses:

(a) Network Service Operator (NSO) license; and

(b) Service Delivery Operator (SDO) license.

NSOs would be licensed to set up and maintain converged networks capable of delivering various types of services e.g. Voice, Data, Video, broadcast, IPTV, VAS etc. in a non-exclusive and non-discriminatory manner. SDOs would be licensed to deliver the services e.g. tele-services (voice, data, video), internet/broadband, broadcast services, IPTV, Value Added Service and content delivery services etc.

8. Thus, through its reference the DoT has envisaged the entry of Virtual Network Operators(VNOs) for delivery of services by delinking them from licensing of networks.

9. Virtual Network Operators (VNOs) are SDO licensees, who do not own the underlying network(s) but rely on the network and support of the infrastructure providers, telecommunications operators (who are owner(s) of towers, radio access networks, spectrum etc.) for providing telecom services to end users/customers. As these operators do not have their own networks, they are termed as Virtual Network Operators. VNOs can provide any telecom service being provided by the network providers viz. tele-services (voice, data, video), internet/broadband, IPTV, Value Added Services, content delivery services etc. The most popular among VNOs are Mobile Virtual Network operators(MVNOs).

### **Earlier Consultation on Licensing framework**

10. For giving its recommendations on 'Unified Licensing' in Oct 2003, the Authority went through a consultation process. In its Consultation Paper titled 'Unified Licensing for Basic and Cellular Mobile Services' dated 16<sup>th</sup> July 2003, the Authority discussed the following Unified Licensing models prevailing worldwide, at that time:

- i) **European Union Model** :- Simple authorisation regime subject to separate regulation/notifications/guidelines.

In this model the main objective was to replace service-specific licences by authorization across EU countries. The member states were, however, permitted to impose a set of conditions to the general authorization. i.e. financial contribution to fund universal service, administration cost etc. For the use of Radio Spectrum, grant of numbers etc. authorities can charge separate fees.

- ii) **Singapore Model** :- Facility based and services based licensing:

The licensees have been categorized into Facilities Based Operators (FBOs) and Service Based Operators (SBOs). Service Based license is further divided into Individual and Class license. The FBOs can build a telecommunications network for the carriage of telecommunications and broadcast traffic. SBOs are operators intending to lease telecommunication network elements such as transmission capacity, switching services, ducts and fibre from any FBO to provide telecommunication services to third parties or resell the telecommunication services of FBOs. FBO licensees can provide SBO services under the same license.

- iii) **Malaysian Model** :- Converged licensing framework:

There are four Categories of licenses viz. Network Facilities

Providers, Network Service Providers, Application Service Providers and Content Application Service Providers. The services falling under these categories are further subdivided into Individual, Class and Exempt Services. Class licenses have a lower level of regulation than individual licenses.

iv) **Argentina Model** :- Single license regime:

In the single license regime, a licensee provides any telecom service other than mobile service. Even with the introduction of the single license regime in 2000, the licenses for cellular mobile/PCS continued as earlier. Any service operator other than those providing mobile service can take a license under the single license, inform the regulator of the service which it is going to provide and can choose any service area or customer categories to be provided by them.

v) **Australian Model** :- Carrier license and carriage service providers:

In Australia, there is an open licensing regime for telecommunications with no distinction being drawn on the basis of the technology used and services offered. A carrier license allows the owner(s) of a network to supply carriage services to the public subject to obligations set out in its license. Carriers are individually licensed and pay application and ongoing licence fees that recover the costs of regulating the industry. Carriage service providers provide telecom services to end users. There is an obligation to take a carrier license if one owns a network unit.

11. In its recommendations on 'Unified Licensing' dated Oct 2003, the Authority recommended that Unified licensing would be introduced in two phases (i) Unified Access Service License(UASL) and (ii) Unified License. It recommended that:

*“.. within six months “Unified Licensing” regime should be initiated for all services covering all geographical areas using any technology. The Regime would be finalized through a consultative process, once ‘in-principle’ approval is received from the Government.”*

12. As mentioned earlier, UASL was introduced by the Government in November 2003. Then, the Authority began consultations for framing guidelines for a complete Unified Licensing Regime. It issued a Consultation Paper on ‘Unified Licensing Regime’ on 13<sup>th</sup> March 2004. In the paper, three models were discussed for consultation with stakeholders for introduction of Unified Licensing in the country:

**a) MODEL I: Unified License and Class License**

This model classified the licensing regime as:

- Unified License
- Class license for some services under Unified License
- No license required for some services

Within this model five categories (combinations of various services) were proposed for consultation.

**b) Model II: Unified License Regime on the lines of Convergence Bill**

This model provided four categories on the lines of the Convergence Bill, as described below:

- i) **Network infrastructure facilities:-** To provide or own telecom infrastructure including towers and ducts.
- ii) **Networking services:** To provide bandwidth services, fixed links and mobile links.
- iii) **Network application services:-** To provide public switched telephony, public cellular telephony, Global Mobile Personal Communication Services by satellite, IP telephony, Radio

Paging, VSAT, Public Mobile Radio Trunking, Public Switched data services

- iv) **Value added network application services:-** To provide Internet services, Unified messaging services etc.

c) **Model III: Facility and Service Based Licensing**

This model was based on dividing the licenses in two categories: Facility Based License (FBL) and Service Based License (SBL). The service providers offering telecom services using their own infrastructure come under the FBL category. On the other hand, SBLs may offer telecom services by leasing infrastructure from others.

13. After consultation and deliberations, the Authority gave its recommendations on 'Unified Licensing Regime' on 13<sup>th</sup> January 2005. In the recommendations it was stated that:

*"..On closer scrutiny of these models, it is observed that fundamentally these models are not different from each other. For example, one could classify facility-based licenses under Unified License and service-based licenses under class license. Under this situation, Model-I and Model-III will be same. Similarly, if network infrastructure facilities (Like IP-I Services), networking services (bandwidth services like IP-II licensee) and value added network application services (like Internet Services) are combined under class license and network application services are put under Unified License then Model-I and Model-II will be the same.*

In these recommendations, the Authority recommended a modified **Model-I** viz. Unified License and Class License Model along with 'Licensing through Authorisation' and a standalone 'broadcasting and cable TV' license.

14. The above recommendations were not accepted by the Government vide its communication dated July 2007. It is pertinent to note that no

reasons were given by the DoT for rejecting the Authority's recommendations.

15. Subsequently, the DoT vide its letter dated 10<sup>th</sup> October 2011 requested TRAI to recommend UL guidelines for new licensees along with modalities and guidelines for enabling existing UASL/CMTS/ISP/NLD/ILD/GMPCS licensees including IP-I providers to migrate to National/Service Area level UL.
16. After consultation, the Authority issued its recommendations on 'Guidelines for Unified Licence/Class Licence and Migration of Existing Licences' on 16<sup>th</sup> April, 2012 and subsequent clarifications to the DoT's queries, on 12<sup>th</sup> May, 2012.
17. On 19<sup>th</sup> August, 2013, the DoT issued guidelines for grant of UL. The salient features of the guidelines are as below:
  - a) The allocation of spectrum is delinked from licenses and has to be obtained separately as per prescribed procedure.
  - b) An applicant can apply for a UL along with authorisation for any one or more services listed below:
    - a. Unified License (All Services)
    - b. Access Service (Service Area-wise) as per given details
    - c. Internet Service (Category-A with All India jurisdiction)
    - d. Internet Service (Category-B with jurisdiction in a Service Area) as per given details
    - e. Internet Service (Category-C with jurisdiction in a Secondary Switching Area) as per given details
    - f. National Long Distance (NLD) Service
    - g. International Long Distance (ILD) Service
    - h. Global Mobile Personal Communication by Satellite (GMPCS) Service

- i. Public Mobile Radio Trunking Service (PMRTS) Service
  - j. Very Small Aperture Terminal (VSAT) Closed User Group (CUG) Service
  - k. INSAT MSS-Reporting (MSS-R) Service.
  - l. Resale of International Private Leased Circuit (IPLC) Service
- c) The Unified License shall be issued on a non-exclusive basis, for a period of 20 years.
- d) A migration path is offered to existing licensees to migrate to the UL regime.
- e) No other license for any of the services covered under Unified License shall be issued/extended/renewed.
18. On 6<sup>th</sup> December, 2013, the DoT issued amendments to the above guidelines, in respect of migration and renewal of existing licenses. As per the amendment, the condition that in case a service provider wants to expand the scope of their license/service to include any additional service or any licensed area, it shall have to migrate all its existing licenses to UL, was removed. Definition of access services has also been included through the amendment. Later, consolidated guidelines for grant of UL were issued on 8<sup>th</sup> January 2014. These guidelines are available on the DoT website.
19. Thus, it is only about a year since the new licensing regime called the 'Unified Licensing Regime' has come into force.
20. At present, there are telecom service providers having CMTS licences, UAS licenses, NLD/ILD licenses. There are some TSPs who have migrated to UL or have taken new UL licenses.

### **Probable Issues in the new framework**

21. It is pertinent to note that in some administrations like Singapore where, because of high density of consumers and small geographical size, it may be preferable to have one (or at most two) networks on which other operators ride for providing services. In contrast, India is a diverse country, large in size and had very poor telecom networks when the Government decided to open the sector to private participation. Therefore, in order to ensure development and proliferation of telecom infrastructure across the length and breadth of the country, the Government took a conscious decision that all TSPs would have their own network for providing services to their customers. To meet this end, each TSP was mandated to comply with certain roll-out obligations and even sharing of infrastructure was not permitted initially. To encourage tower sharing amongst operators, Govt. of India initiated a project 'Mobile Operator Shared Tower (MOST)' in March 2006, and later on, in April 2008 sharing of active infrastructure, except spectrum, was also permitted. In view of the above, presently most access providers are integrated operators who have their own infrastructure for both access and long distance services. Having already established their networks, the issue to deliberate upon is whether delinking the network from service delivery will have any effect on the working of these TSPs? As mentioned earlier, the new UL regime has come into existence only about a year back. For the telecom sector, which is highly capital intensive and where the pay-offs take a long time, it is necessary that regulatory policies are predictable and stable in nature.
22. In the proposed licencing framework, based on the VNO model, one issue could be whether the existing TSPs, will have to obtain an NSO licence or both NSO & SDO licences on migration to the new licensing

regime? A linked issue for deliberation will be about the necessity of changing the licensing regime at all, at such a short interval since UL was introduced.

23. Presently there are 7-13 licensees in various service areas. Therefore, another issue for deliberation could be about the need for introduction of more competition in the form of VNOs. Apart from access services, for other services like V-SAT, PMRTS/CMRTS, GMPCS, it needs to be deliberated whether any business case/revenue potential exists for a standalone Virtual Operator for these services.
24. In India, the TSPs have infrastructure, including spectrum, which is just about sufficient to cater to their own requirements. Would they really be able to spare their infrastructure for new SDOs?
25. It can also be deliberated whether the reference of DoT envisaged an entirely new licensing regime or could be considered to mean that a chapter may be added to the existing UL for facilitating licenses to the VNO.
26. There are associated issues in the proposed framework. Some of them are mentioned below:
  - i) **Rollout obligations:** In the proposed licensing framework, NSOs will have to fulfill obligations to rollout their networks to cover wider geographical areas while the same will not be the case for SDOs as these will be virtual operators. The purpose of rollout obligations is to ensure that not only is there geographic coverage of the network but also that spectrum is optimally utilized. In the proposed licensing regime, a situation could arise where the network is rolled out by NSOs but the spectrum is not being utilized optimally by SDOs. As SDOs will provide telecom services utilising the network created by NSOs, there could be a chance that such a regime may

attract some SDO licensees who may turn out to be fly-by-night operators.

- ii) **Nature of agreement:** What will be the model of agreement between the two types of licensees? Will it be left to the market or will it be regulated like mandating NSOs to provide services to SDO licensees and mandating charges etc.?
- iii) **Sharing of infrastructures:** It is possible that a SDO licensee may use the network of more than one NSO Licensee and similarly, one NSO Licensee may cater to more than one SDO licensee. This will result in utilisation of infrastructures (including spectrum) by the SDOs from many licensees. The associated issues related to sharing of multiple infrastructure need to be deliberated.
- iv) **Issue of spectrum usage charges:** In the present framework, spectrum usage charges for a licensee have been defined slab wise. Therefore, in the NSO/SDO scenario, how would spectrum usage charges be determined? Also, who will pay the spectrum usage charges?
- v) **Allotment for the numbering resources:** As there may be many SDO licensees, there will be issues regarding allotment of numbering resources and charges, if any. Proper utilisation of numbering resources will have to be ensured.
- vi) **Lawful interception:** In case of lawful interception, whom would the security agencies approach, the NSO or SDO of both?

27. On 6<sup>th</sup> August 2008, the Authority sent its recommendations on Mobile Virtual Network Operator (MVNO). Subsequently, on DoT's reference dated 24<sup>th</sup> February 2009, the Authority sent its reconsidered

recommendations on 12<sup>th</sup> March 2009. Later, in its recommendations on 'Issues related to Telecommunications Infrastructure Policy' dated 12<sup>th</sup> April 2011, the Authority revisited some of its recommendations on MVNO of 6<sup>th</sup> August 2008 and 24<sup>th</sup> February 2009. However, till date a policy on MVNOs has not seen the light of day. Therefore, one issue for consideration could be that instead of introduction of VNOs in all areas of Voice, data and Videos, should MVNOs be allowed to function under the present UL framework?

28. Another point for deliberation could be that today there is no licensing regime for application providers and Over-The-Top(OTT) operators. With the introduction of the proposed model, would those entities also need to take a licence<sup>1</sup> for providing these services?

29. Stakeholders are requested to send their inputs on the proposal of DoT for delinking of licenses for networks from the delivery of services by way of virtual network operators (VNOs) including associated issues of definition of Adjusted Gross Revenue under the UL regime<sup>2</sup>. It is requested that all related issues, including those mentioned in above paras, which may arise in case the proposed licensing framework is implemented, may be clearly brought out.

30. The comments may be sent along with electronic form to Shri Sanjeev Banzal, Advisor (Network, Spectrum & Licensing) at [advmn@traai.gov.in](mailto:advmn@traai.gov.in) by 17<sup>th</sup> September 2014.

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<sup>1</sup> The Authority is contemplating to issue a separate consultation paper on this issue.

<sup>2</sup> The AGR issue is being dealt separately in the consultation paper on 'Definition of Revenue Base (AGR) for the Reckoning of Licence Fee and Spectrum Usage Charges' dated 31<sup>st</sup> July 2014.

F.No.800-23/2011-VAS  
Ministry of Communication & IT  
Department of Telecommunication  
Sanchar Bhawan, New Delhi  
Access Services Wing

Dated the 7<sup>th</sup> July, 2014

To

✓ The Secretary  
Telecom Regulatory Authority of India  
Mahanagar Doorsanchar Bhawan  
Jawaharlal Nehru Marg (Old Minto Road)  
New Delhi - 110002

**Subject:** Recommendations for delinking of licencing of networks on delivery of services by way of virtual network operators including associated issues of definition of Adjusted Gross Revenue under unified licencing regime.

Sir,

The Government has announced National Telecom Policy (NTP), 2012 which inter-alia stipulates:-

*"3.3. To move towards Unified Licence regime in order to exploit the attendant benefits of convergence, spectrum liberalisation and facilitate delinking of the licensing of Networks from the delivery of Services to the end users in order to enable operators to optimally and efficiently utilise their networks and spectrum by sharing active and passive infrastructure. This will enhance the quality of service, optimize investments and help address the issue of the digital divide. This new licensing regime will address the requirements of level playing field, rollout obligations, policy on merger & acquisition, non-discriminatory interconnection including interconnection at IP level etc. while ensuring adequate competition.*

*3.8 To facilitate resale at the service level under the proposed licensing regime – both wholesale and retail, for example, by introduction of virtual operators – in tune with the need for robust competition at consumer end while ensuring due compliance with security and other license related obligations."*

2. TRAI has given its recommendation namely, 'Guidelines for Unified Licences / Class Licences and Migration of existing Licensees' on 16.4.2012 which were deliberated by DoT in the context of NTP 2012.

3. DoT had decided in 2013 that Unified licence may be introduced in two phases with delinking of licensing of networks from delivery of services being taken up in a subsequent phase.

4. Accordingly, Telecom Regulatory Authority of India is requested to submit its recommendations for delinking of licensing of networks from delivery of services by way of virtual network operators etc. including associated issues such as Adjusted Gross Revenue , terms of sharing of passive & active infrastructure etc. under unified licensing regime.

Yours faithfully,

*P.K. Mittal*

(P.K. Mittal)

DDG (AS-1) 7/12

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