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12<sup>th</sup> October 2020

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**Sub: Submission towards inputs invited on the Consultation Paper on 'Enabling Unbundling of Different Layers Through Differential Licensing'.**

Respected Sir,

In the response to the inputs invited from various stakeholders on the Consultation Paper regarding **Enabling Unbundling of Different Layers Through Differential Licensing**, as issued by TRAI on 20<sup>th</sup> August 2020, please find enclosed our submission for your kind perusal and consideration.

We are hopeful that the relevance of the vital inputs shared by us shall be deliberated upon in detail, in the process of culminating a recommendation regarding this critical issue for the industry.

With regards,

Yours sincerely,

**Bharat Gupta,**  
**Head - Corporate Affairs,**  
**Sterlite Technologies Limited.**

## **STL Response to TRAI Consultation Paper**

At the outset, Sterlite Technologies Limited (STL) wishes to compliment TRAI for bringing out a very important Consultation Paper that if steered appropriately and implemented accordingly, has the potential to execute and implement Next Generation Policy & Regulations which are appropriate for accelerating Digital India and are in accordance with the principles promulgated in NDCP – 2018.

The existing regulatory regime is based on the voice-based networks and needs to be aligned to the modern-day and futuristic networks. Each network technological advancement whether 3G, 4G, 5G, NFV, SDN, fog & edge computing have been directed towards enhancing the QoS experience for the digital services being provided over the network.<sup>1</sup> The process for regulation, therefore, must shift from being network centric to services centric.

As the sector has now matured and new innovative technologies are increasingly changing the landscape,<sup>2</sup> there is need for an ideological shift to greater deregulation wherein we permit all services without hard and explicit licensing requirements. In our opinion, the license conditions should be restructured to make levies and fees proportional to actual costs incurred in regulation. This will allow innovation to thrive and new services to proliferate the country.

**Q1. Do you agree that in order to attract investment and strengthen the service delivery segment, Network services layer and Service delivery layer needs to be separated by introducing specific license for Network Layer alone? Please justify your answer.**

### **Response.**

1. Yes, not only to attract investment and strengthen the service delivery segment but also for mass adoption of modern network technologies such as 5G and the enabled services.
2. The current licensing regime needs to be aligned to modern-day and futuristic network technologies. Unbundling of different layers will offer opportunities for sharing telecom resources; result in optimum utilization of resources, create additional revenue streams and promote competition. The concept of unbundling of layers through differential

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<sup>1</sup> Yahui Meng, Muhammad Ali Naeem, Alaa Omran Almagrabi, Rashid Ali, and Hyung Seok Kim, "Advancing the State of the Fog Computing to Enable 5G Network Technologies", pp. 4-13, November 2017. [Online] Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7146597/>. [Accessed Oct. 8, 2020].

<sup>2</sup> TRAI - Pre-Consultation Paper, "Enabling Unbundling of Different Layers Through Differential Licensing", pp. 7-10, December 2019. [Online] Available: [https://tra.gov.in/sites/default/files/CP\\_09122019.pdf](https://tra.gov.in/sites/default/files/CP_09122019.pdf) [Accessed Oct. 8, 2020].

licensing was also proposed under the National Digital Communications Policy (NDCP) – 2018.<sup>3</sup>

3. There is a need for revisiting the existing licensing and regulatory regimes of the voice centric networks and splitting them into multiple layers to create the environment conducive for enabling innovative digital services. The adoption of such regime will offer following predictable advantages:
  - a. Attract large investments.
  - b. Simplify auditing, accounting, and taxation process.
  - c. Encourage competition.
  - d. Facilitate faster and better implementation of the government's Smart City and other Digital programs.
4. Implementation of proposed layered concept of licensing would require a major shift in the process of sale of the native services of the network viz, voice, messaging and data wherein these services would be considered as the product of the Network Infrastructure layer. Just as a product manufacturer sells its products, similarly the products of this layer would be transacted, on a non-discriminatory basis, only through DoT registered players i.e. Network Services Providers (NSP) at Network Service Layer and Over-The-Top players (OTTs) providing digital services at Service Delivery Layer or Application Layer. The NSPs and OTTs can source these services from the Network Infrastructure Providers (NIP) in bulk for sale to their customers.
5. We therefore propose that licensing may be separately considered for Network Infrastructure layer, Network Services Layer and Service Delivery Layer.as follows:<sup>4</sup>
  - a. Network Infrastructure Services Layer: Would include physical infrastructure, active and passive instances of the network. *(The Infrastructure layer is already unbundled in the form of Infrastructure Provider Category-I (IP-I), though with a limited scope. If the scope of IP-I provider is enhanced and it includes active infrastructure elements also, it will rightly serve the purpose of an independent 'Network Infrastructure Services Layer')*.
  - b. Network Services Layer: Would be associated with selling only the voice, messaging, and data connectivity.

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<sup>3</sup> Department of Telecommunications, India, “National Digital Communications Policy – 2018”, pp. 10, September 2018. [Online] Available: [https://dot.gov.in/sites/default/files/Final%20NDCP-2018\\_0.pdf](https://dot.gov.in/sites/default/files/Final%20NDCP-2018_0.pdf) [Accessed Oct. 8, 2020].

<sup>4</sup> TRAI Consultation Paper, “Enabling Unbundling of Different Layers Through Differential Licensing”, pp. 15-16, August 2020. [Online] Available: [https://tra.gov.in/sites/default/files/Consultation\\_Paper\\_20082020.pdf](https://tra.gov.in/sites/default/files/Consultation_Paper_20082020.pdf) [Accessed Oct. 8, 2020].

- c. Service Delivery Layer: Would substantially add value to the basic connectivity services viz. voice, messaging, and data connectivity by bundling these services with IoT services, OSP (Other Service Provider) services, etc.
6. Further, it is suggested that light touch license regulation or registration-based framework for initial 5-10 years may be considered for the three layers. After completion of set period this light touch license may be reviewed basis outcome of the 5-10 years' experience.

**Q2. Should the Network Services Layer licensee be permitted to take the Service Delivery Category licenses and provide the service? If yes, what kind of restrictions and safeguards are required to be built, in order to protect the competition and innovation in service delivery segment? Please justify your answer.**

**Response:** Not Recommended.

**Q3. Whether certain obligations should be imposed on the existing Unified Licensees, and other measures should be taken to encourage UL licensees to provide their network resources to VNO licensees particularly in mobile service segment? Please suggest the measures in detail.**

**Response:**

1. VNO was a innovative solution that had wider acceptance in certain parts of the world. However, in India the concept could not gain popularity which may be attributed to the following:
  - a. Lack of incentives to the existing licensees to provide their network resources to VNO licensees.
  - b. Dual taxation due to non-availability of pass through on account of License Fee (LF) initially, and later due to the calculation of LF on a notional AGR. India being a hyper competitive market such provisions for governmental revenue maximization have prevented business entity(s) to opt for becoming a VNO.
2. The notion that VNOs are competitors of TSPs need to change as TSPs do enjoy the primary rights to licensed spectrum, PSTN Interconnection on regulated terms and numbering resources.

3. Light touch regulations, forbearance of tariff, creating attractive products based on customer's needs, enhancing consumer awareness and least governmental intervention would help in resolving the issues related to VNOs.<sup>5</sup>

**Q4. In case network layer and service delivery layer are separated by creating separate category of licenses, as proposed in Q1;**

- a) **What should be the scope for Network layer license and Service Category licenses?**
- b) **Out of various responsibilities and obligations enumerated in Unified License, what should be the respective responsibilities and obligations of Network layer licensees and Service delivery category licensees? Please elaborate with justifications.**

**Response:**

1. Prior to 4G, the controlling plane for services i.e. QoS, security, billing, etc, was limited to the physical network only<sup>6</sup>. For 4G or 5G networks, cloud computing and edge computing technologies enable better control from the services plane, i.e. over the network.<sup>7</sup> Imposing restrictions, for securing / controlling digital services may adversely affect innovation, result in cost escalation etc. Therefore, for mass adoption of modern network technologies such as 5G and enabled services, it is essential to create a light touch regulatory framework. Broadly, segregation and scope of licensing for various layers may be as follows:
  - a. Network Category: The Network Category Viz. Network Services Providers (NSPs) would be associated with selling only the basic network services viz, Voice, Messaging and Data connectivity. They would be permitted to sell these services to retail as well as the corporate (Bulk Usage) customers for end usage only.
  - b. Scope of Network Category: Following is proposed:

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<sup>5</sup> Broadband India Forum, "White Paper on Virtual Network Operators (VNOs) in India", pp. 5-17, May 2018. [Online] Available: <https://www.broadbandindiaforum.com/files/reports-and-publications/White%20Paper%20on%20VNOs%2014%20May%2018%204%20ONLINE.pdf> [Accessed Oct. 8, 2020].

<sup>6</sup> Dushyanth Balasubramanian, "QoS in Cellular Networks", September 2006. [Online] Available: [https://www.cse.wustl.edu/~jain/cse574-06/ftp/cellular\\_qos.pdf](https://www.cse.wustl.edu/~jain/cse574-06/ftp/cellular_qos.pdf) [Accessed Oct. 8, 2020].

<sup>7</sup> Fernando López Rodríguez, Ugo Silva Dias, Divanilson R. Campelo, Robson de Oliveira Albuquerque, Se-Jung Lim and Luis Javier García Villalba, "QoS Management and Flexible Traffic Detection Architecture for 5G Mobile Networks", March 2019. [Online] Available: [https://res.mdpi.com/d\\_attachment/sensors/sensors-19-01335/article\\_deploy/sensors-19-01335.pdf](https://res.mdpi.com/d_attachment/sensors/sensors-19-01335/article_deploy/sensors-19-01335.pdf) [Accessed Oct. 8, 2020].

- i. Infrastructure Deployment: NSPs should be permitted to augment the complete network infrastructure of the Network Infrastructure Providers (NIP), except the gateway elements for interfacing with other NIP and spectrum.
  - ii. Sale of Services: The NSPs would have a B2B contractual arrangement with the NISPs and should be at liberty to sell these services to retail / corporate customers. Selling of these services shall not be construed as resale of the Network Infrastructure Services, albeit it should be viewed as a separate layer that is selling the product of the Network Infrastructure Layer.
  - iii. Tariff Definition: NSPs should be mandated to define the tariff of its services as per TRAI's tariff regulations for NSPs.
- c. Services Category: The classification of this category i.e. Over The Top players (OTTs) would be that they do a substantial value add to the basic network services i.e. Voice, Messaging and Data connectivity, of Network Infrastructure Provider (NIP) before selling it as a bundled service to the OTT customers.
- d. Scope of Services Category: It is proposed that the scope of this layer should include the M2M / IoT Service Providers and Other Service Providers (OSP).
  - i. Infrastructure Deployment: OTTs may be permitted to augment the network infrastructure of the Network Infrastructure Provider only within a limited campus area / within a building.
  - ii. Sale of Services: The Network Service Providers would have a B2B contractual arrangement with the Network Infrastructure Provider and these services would be sold as a component of the bundled services of the OTT.
  - iii. Tariff Definition: OTTs should also have some tariff structure for its bundled services.

**c) What mechanism should be put in place to regulate the access to network services of Network layer licensees by the service delivery Category licensees? Whether certain obligations should be imposed on Network layer licensees to provide the network resources in a time-bound, transparent and non-discriminatory manner?**

**Response:**

Please refer response to Q1, already a light touch license regulation/Registration at DoT has been proposed for all three categories.

- d) What incentives (for example, lower license fee, lower SUC, etc.) could be provided to Network Layer licensees in the new unbundled licensing regime to encourage the investment in the Network layer? Please justify your answer.**

**Response:**

Following additional incentives may be considered for the Network Layer:

- a. Reduction in the License Fee (LF) and SUC.
- b. Availability of Spectrum.
- c. Rationalised spectrum prices.

- e) Whether the existing Unified Licensees should be mandated to migrate to the unbundled licensing regime, or the new regime should be introduced, while keeping the existing regime continued for existing licensees till the validity of their license, with an option of migration?**

**Response:**

Since the existing licensees have invested capital in acquiring the licenses, migration to new licensing regime would entail additional costs. With the ARPU still the lowest, higher data consumption and lowest data costs,<sup>8</sup> TSPs may not be in a position to invest additional capital for migration to new regime. It is proposed that existing Licensees may be allowed to continue with their present licenses till culmination of their license validity. Thereafter, they may be given a choice to migrate to the new licensing regime.

Alternatively, a common sunset date may be declared in consultation with the Industry and align all licensees to make pro-rata payments on License Fees (LF) and spectrum usage charges (SUC) as one-time fees.

Simultaneously, existing licensing/regulatory framework may be reviewed to align it with the current and future technologies and operating frameworks.

- f) Existing VNO licensees be mandated to migrate to service delivery category licenses as per unbundled licensing regime?**

**Response:** Yes.

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<sup>8</sup> "ARPU and mobile data growth trends in India", August 2020. [Online] Available: <https://www.telecomlead.com/4g-lte/arpv-and-mobile-data-growth-trends-in-india-96509> [Accessed Oct. 8, 2020].

**g) Whether service delivery category licensees be permitted to parent with multiple Network Service layer licensees? Please justify your answer.**

**Response:** Based on the modern-day requirements, the true layered approach must be permitted with unbundling of all the layers. Parenting with multiple layers must be permitted in transparent manner, which would encourage fair competition, QoS and efficient network usage.

**Q5. Any other issue related to the subject may be raised with suitable explanation and justification.**

**Response:** Any regulatory intervention to address a market failure must be planned carefully so that it does not introduce market distortions or prevent optimal service provision for society. Efficiency in telecommunication markets is both static and dynamic, and when designing regulatory intervention, the Regulators must consider both aspects, such as incentives to innovate and invest in future technologies, because they are important to improve total welfare. A future proof, all-inclusive solution to this could be to allow the market to function and intervention of Regulator must be used sparingly and if there is any specific incidence of market failure.

**Following Consultations/Studies be undertaken by TRAI:**

- i. Efficacy of the existing Unified Licensing regime introduced in the year 2013 to attract investments, growth of sector, drive innovation, adoption of new technologies and future networks.
- ii. Changes required in the existing Unified Licensing regime.
- iii. Simplification of Unified License regime to reap optimal benefits instead of recommending further unbundling of licensing framework into different layers – Infrastructure, Network, and Services.
- iv. Regulatory Impact Assessment of scrapping the current system of license fee (LF) as a percentage of AGR.
- v. Possibility of a fixed annual license fee to cover the cost of administration and regulation.