

Hughes Response to TRAI Consultation Paper Enabling Unbundling of Different Layers Through Differential Licensing

Hughes thanks TRAI for bringing out the consultation paper on the above topic. The issues are outlined very clearly. Hughes wishes to provide its comments on a general basis and also specific to the satellite service for select questions.

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.

Hughes Response: Hughes feels it is important to separate out the layers so that smaller services and use cases get the attention of more nimble footed service providers. The TSPs today are more mass oriented and the subscriber numbers and the ARPUs are the benchmark. Whereas a Service Delivery layer will certainly bring in much more focus to certain niche services that are also required, but can ride on the larger infrastructure. However, this does not mean that the present licensed service provider framework needs to be dismantled. It can certainly continue the way it is working with some protection mechanism that mandates allocation of resources by Network Services layer to the Service Delivery layers. To give an example a bank today needs the network that has built in redundancy and is served by two different networks of two different service providers. So a service delivery layer would be the ideal convergence point where the two network service layers are converged to provide a redundant network service to the bank as an enterprise. Similarly, there are many use cases which need such unbundling.

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 the service delivery segment? Please justify your answer.

Hughes Response: The Network Services Layer should not need any additional license to provide the service from their own Network Service. However, the moment, they have to combine networks of multiple network service layers, then yes, the Service Delivery Category licenses will be required. Holding a license to a Network Service Layer does not automatically allow the NSP to buy services from other NSPs and provide an amalgamated service. This will then require a Service Delivery Category license.

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 the mobile service segment? Please suggest the measures in detail.

Hughes Response: The licensing framework should be suitably modified to make the Network Service Layer non-discriminatory. Certain generic products have to be defined for the Network Service Layer and it should be possible for any Service Delivery Category licensee to buy that product from the Network Service Layer of any TSP and the TSP should be mandated by law not to deny such the Network Service to a Service Delivery Category licensee or for that matter demand an unreasonable level of pricing.

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

a) What should be the scope for Network layer license and Service Category licenses?

Hughes Response: Assuming that the Network Infrastructure Provider will build the passive & in some cases the active components that constitute a network and share that infrastructure with multiple Network Service Providers, the scope of a Network Service Provider will be to translate that underlying network into usable set of products either by customers directly or other service delivery operators. Setting up network management services, billing services (first level of billing to service delivery operators and to enable service delivery operators to bill their customers) are in the scope of the Network Service Providers.

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.

Hughes Response:

Network Service Providers:

- a. Builds own infrastructure or relies on Network Infrastructure Providers to build the infrastructure for them*
- b. Establishment of network that adheres to the standards prescribed*
- c. Rolling out of the network in line with the roll-out obligations.*
- d. Setting up of lawful interception mechanism as stipulated in the respective authorization*
- e. Providing the QoS as per the QoS definitions in the published tariff plans or as stipulated by the licensor/regulator.*
- f. Provide services to consumers/customers and service delivery operators in a non-discriminatory basis*
- g. Establishment of suitable billing mechanism both for billing consumers/customers and service delivery operators*

Service Delivery Operators:

- a. Builds a service provisioning infrastructure to service their customers*
- b. Enter into agreements with Network Service Providers for provision of services to customers*
- c. Establishment of suitable billing mechanism to bill customers*

- d. *Providing the QoS as per the QoS guidelines and as per the Service Level Agreements with customers*
- e. *Establishment of a grievance redressal mechanism for customer grievances.*

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?

Hughes Response: The Network Services Layer needs to be non-discriminatory in nature and should be tariff regulated to ensure that the tariff is also non-discriminatory in nature. It should be obligatory on the Network Service Layer to enter into commercial agreements with Service Delivery Operators if they are being approached for Network Services.

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.

Hughes Response: Service Delivery Operators are yet another channel for the Network Service Providers to address requirements that aren't addressed today. So the incentive lies in the expansion of services itself. However, for the cost of the services to be affordable to the end consumer/customer, multiple layers of licensing fees should be avoided and there should be enough set-off mechanisms to make sure that the license fees are levied only once.

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?

Hughes Response: If Network Service Provider is allowed to go to the end consumer along with serving Service Delivery Operators, then the present licensing framework needs minimal changes and does not disrupt the operations of the Network Service Providers. It should not be optional and it should be mandatory.

f) Whether existing VNO licensees be mandated to migrate to service delivery category licenses as per unbundled licensing regime?

Hughes Response: Existing VNO licensees should be automatically migrated to the service delivery category licenses. While doing so, any restrictions that are placed on the VNOs today should be analysed and should be done away with, to make it a light touch regulation. In the case of data, there are many use cases where the Service Delivery Operator adds substantial value on top of the Network Services layer and needs a light touch regulation as an incentive. Managed Network Providers, certain application service providers will also like to play the role of a service delivery operator.

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

Hughes Response: Yes. There are many use cases that need this. For example

- a. Mobile Bank ATM going to rural areas will need to rely on multiple network service providers depending on their coverage. The Bank would ideally go to a Managed Network Service provider for such a service (Service Delivery Operator in this case) and who in turn will tie up with multiple Network Service Providers to provide the service.*
- b. An enterprise wanting to outsource their entire network to a managed service provider who aggregates multiple media across the network depending on the strength of each media. This requirement is usually met with a combination of media like MPLS, DSL, cellular & Satellite. Again, all of these network services are not provided by all of the Network Service Providers. So Service Delivery Operators need to aggregate these services from multiple Network Service Providers.*
- c. An emergency service such as fire or ambulance service, which again needs multiple connections to maintain network connectivity while on the move and is serviced by a Service Delivery Operator specialized in providing such a niche service, but takes the backend service from multiple Network Service Providers.*

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

Hughes Response: This form of licensing should apply to the various services that exist today. Mobile services are just one of the many services that exist in the telecom domain. In the satellite context, there are scenarios that will fit well into this model of licensing

- a. A high throughput satellite has gateways that are established by an entity and are used by multiple service providers to provide services to customers. The gateway of the HTS can be termed as an infrastructure and can be set up by a Network Infrastructure Provider. Multiple Network Service Providers who are licensed can make use of that infrastructure to provide services to their customers. Network Service Providers also can extend their services to Enterprise Managed Service Providers who aggregate different media to complete a network (Service Delivery Operators). Today, the licensing framework does not allow for this. It poses severe restrictions for a single Network Service Provider to play all roles and does not off-load the non-core function of network aggregation from the end customer to a Managed Service Provider.*
- b. Similarly, in the case of LEO/MEO constellations, these principles again can apply very effectively. LEO/MEO constellations again establish points of interconnect with the terrestrial network for traffic hand-over. However, in the case of such constellations, the satellite operator becomes the Network Service Provider as they process data end to end and hand over the traffic at the terrestrial PoIs and at the end user equipment. The Service Delivery Operators can provide substantial value in building specific use cases*

such as Cellular Backhaul over satellite, Wifi hotspots over satellite, Disaster recovery networks over satellite and many such use cases.