



To

30-10-2020

**Shri Syed Tausif Abbas,**  
Advisor (Networks, Spectrum and Licensing),  
Telecom Regulatory Authority of India,  
Mahanagar Doorsanchar Bhawan,  
Jawaharlal Nehru Marg (Old Minto Road),  
New Delhi-110002

**Sub: Tata Communication Limited's response to TRAI Consultation Paper on 'Enabling Unbundling of Different Layers Through Differential Licensing'**

**Ref.: Consultation Paper dated 20<sup>th</sup> August 2020 issued by TRAI**

Dear Sir,

This is with reference to consultation paper on **'Enabling Unbundling of Different Layers Through Differential Licensing'** issued by TRAI on 20<sup>th</sup> August 2020, please find annexed detailed comments on behalf of Tata Communications Ltd. on various issues raised in the said consultation paper for your perusal and kind consideration. The said annexure is marked as **Annexure A.**

Thanking You,

Yours Sincerely,

**For Tata Communications Ltd.**

DocuSigned by:  
  
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**(Praveen Sharma)**  
**Authorized Signatory**



ANNEXURE-A

**RESPONSE BY TATA**  
**COMMUNICATIONS LIMITED TO**  
**THE CONSULTATION PAPER**  
**ISSUED BY TRAI ON**

**“ENABLING UNBUNDLING OF**  
**SPECIFIC LAYERS OF TELECOM**  
**LIKE INFRASTRUCTURE,**  
**NETWORK, SERVICES THROUGH**  
**DIFFERENTIAL LICENSING”**



## Preamble

At the outset, we would like to thank TRAI for raising this very important issue for public consultation and giving us an opportunity to provide our comments on this consultation paper on “Enabling unbundling of specific layers of telecom like infrastructure, network, services, through differential licensing.”

In order to attract investments of USD 100 Billion in the Digital Communication Sector, the National Digital Communications Policy (NDCP) 2018, under its “Propel India” mission has envisaged one of the strategies as “reforming the licensing and regulatory regime to catalyze investments and innovations and promote ease of doing business.” For this purpose, one of the actions proposed in NDCP 2018 is considering enabling unbundling of different layers (e.g. infrastructure, network, services, and applications layer) through differential licensing.

In our view, existing and settled license regime of Unified License (UL) brought in the year 2013 and UL-VNO in 2015 should not be changed drastically in order to achieve unbundling into further narrow and fragmented categories of Infrastructure, Network, Service and Application layer. **Any such action would be against the principles of regulatory certainty** which is a hallmark of successful telecom regulatory practices. Additionally, we do not foresee any benefit of such unbundling for the telecom sector and on the contrary, it may increase the complexities and compliance requirements for all the service providers, apart from disrupting the present settled Unified license regime which came into being recently in 2013 for all Telecom Services and in 2015 for Virtual Network Providers (VNO). Further, bringing application layer under licensing will result in regulating the services which are currently unregulated such as Machine-to-Machine (M2M) communications, IoT, Cloud services, data centers, e-commerce etc. as these are not covered under the section 4 of Indian Telegraph Act. These Application service providers are providing their services to different verticals using telecom resources; bringing these application services into licensing framework will not only restrict the innovation but will also impact the inflow of the investments in the country. Therefore, **any further unbundling will make licensing regime more complex and is totally against the spirit of National Digital Communications Policy (NDCP) 2018 and prove to be impediment in promoting “ease of business” in telecom sector.**

The current Unified License regime is a vertically integrated licensing regime having the right to provide Infrastructure services, Network services and services to the end -customer. UL-VNO licensee has the right to provide services only and to deploy limited type of infrastructure and is almost analogous to SDOs (Service Delivery Operator); however, the license conditions of UL-VNOs are very onerous as compared to global standards of licensing terms for SDOs. TRAI in the para 4.6 of the Consultation paper has highlighted that even though, in the present licensing framework, infrastructure layer is being serviced by IP-I (Infrastructure Provider-1), network (including infrastructure and service) layer is being served by UL holders, service delivery layer is being catered by VNOs, there is lack of proliferation of SDOs/VNOs in the mobile segment due to the fact that the terms and conditions of VNO license are mostly same as that of Unified License as it has been created using the UL template. Globally, the SDO layer is usually kept under light-touch regulation.

In view of the above, it is submitted that **TRAI instead of further unbundling the licensing layers should strongly recommend to DoT for simplification of UL-VNO regime as per the**



**global standards and the UL VNO (Access Services) be allowed to be parented with two or more NSOs (Access Service Providers) as is permitted in the case of fixed line services.**

Tata Communications Ltd. strongly supports the current licensing regime of the layered approach viz IP-1, UL and UL-VNO regime which is well balanced; therefore, **there is no need for any structural change in the licensing regime apart from simplification of UL-VNO** regime as per global norms. We are of the view that the current licensing regime provides space for required segregation of layers, while ensuring the optimum utilization of telecom resources, and suggest that there should not be any change in the current licensing regime as it may lead to increase the burden for existing players.

It is our view that any **changes in the existing license regime should aim towards simplification of license regime in terms of**

- statutory levies required to be paid by the Telecom Service Providers,
- compliance processes and various costs/fee associated with the licenses,
- right of ways process and cost structure simplifications,
- identifying Telecom Infrastructure as a critical infrastructure to enable better uptime on fibers, for ensuring better Network quality as a whole.

There is an urgent need to bring in reform in terms of AGR regime so that the telecom services sector is saved from further financial stress. There are provisions in NDCP-2018 policy viz 2.1 (b) reproduced below and it is requested that action for implementing the same needs to be taken up on priority for ensuring competitive nature of the telecom services sector:

“2.1

*(b) Reforming the licencing and regulatory regime to catalyse Investments and Innovation, and promote Ease of Doing Business by:*

- i. Reviewing of levies and fees including LF, SUC and the definition of AGR and rationalisation of Universal Service levy*
- ii. Reviewing the concept of pass through charges to align the same with the principles of input line credit thereby avoiding double incidence of levies. “*

In addition to above, kindly find below response from Tata Communications Ltd. to the Issues raised in the consultation paper:

**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:**

At the outset, we wish to submit that the existing licensing regime has worked quite well over the years for growth of the Telecom sector, which is evidenced by a) the overall tele density (88.56%



as per TRAI's Performance Indicator Report released on 30th June 2020) and b) the prevalent tariffs for telecom services being the lowest in the world.

We believe that there is no benefit in unbundling the existing licenses into further narrow fragmented categories of Infrastructure, Network, Service and Application layer as it may increase the complexities and compliance requirements apart from disrupting the present settled license regime. In so far as the separation of Network Service layer and Service delivery layer by introducing specific license for Network Layer alone is concerned, in our view, it would not attract investments or strengthen the service delivery segment but would rather further complicate the relationship of NSO and SDO.

We do not support the separation of Network services layer and Service delivery layer, for the following reasons:

- **Regulatory Certainty:** The licensing regime for the provision of the telecom sector has already witnessed a sea change in the year 2013 with the introduction and implementation of the 'Unified License regime' and thereafter, UL-VNO regime was introduced in the year 2015 for SDOs. We are of the view that changing basic structure of licensing regime barely 5 to 7 years after it is promulgated is against the principle of regulatory certainty and will certainly deter any further investments in the telecom sector. Proposing a specific license for Network Layer would not only be against the spirit of Unified Licensing regime but will also put at risk, the huge investments already made by the existing UL licensees and standalone licensees to build up their networks.
- **No commensurate benefit and increased scope of regulation:** The proposed changes entail complete overhaul of present license regime which was promulgated only five years back and would disturb the present license regime and licensees without any commensurate benefit to them. The proposed changes would also potentially increase the ambit of regulation on newer services like cloud services etc., which are currently unregulated. We believe that regulating such services would definitely be a retrograde step. Thus, the present proposal in the consultation paper for a new licensing regime would adversely impact the telecom services sector as well as application services which ride on telecom services.
- **More Complex and increased compliance requirements:** The proposed fragmentation of the licensing regime may increase the complexities and compliance requirements. Further, we wish to highlight that the current licensing regime serves the purpose of proliferation of telecom services and there is no failure in the present applicable licensing regime.

We have following suggestions for the consideration of the Authority:

- **Need for simplifying UL-VNO regime:** As mentioned in Consultation Paper, there is a requirement to review UL-VNO license regime and simplify it further to increase its adoption in India which will provide more choices to customers for choosing their Service Delivery Operators. In this regard, we submit that instead of creating a new unbundled license regime, actions need to be taken for simplification of existing UL-VNO regime. Compliance and other costs associated with UL-VNO regime need to be brought down



and in case any bottleneck are faced by MVNOs in getting the resources from Access Providers then appropriate regulatory action needs to be taken for ensuring availability of resources at reasonable cost for both NSOs and VNOs.

- **Incentivizing NSO-VNOs for mobile services** : We believe that there should necessary changes should be made to the existing licensing regime to incentivize mobile operators to provide competitive, fair wholesale pricing to multiple VNOs and to allow such VNOs to partner with more than one Network Service operator. Further, in our view, VNO should have the option to choose multiple NSO for mobility and fixed line services in a Licensed Service Area. Also, International Termination Charge (ITC) which NSO (Access Service Licensee) gets for international termination on the number sold by VNO (UL-VNO-AS Licensee), the ITC should be shared with the VNO in equal share as this is the new business which is generated by the efforts of the VNO through its customers. As per Telecommunication Interconnection Usage Charges Regulation, 2003 as amended from time to time the ITC charges are not considered as a cost-plus component for the NSO.

In view of above submissions, we do not recommend any further changes in the basic structure of current licensing regime of IP-1 ( Infrastructure Layer) , UL ( Network & Services Delivery Layer) and UL-VNO ( Service Delivery Layer without ownership of Network and infrastructure) as this would not only end up further fragmenting the current established and well settled licensing regime in the country, but would also increase overheads for all telecom operators in managing complexities, compliances and organizing themselves in a new licensing regime. Any further complexity through the addition of new licenses based on segregation of existing segments is step away from what has been working well for our market. Currently, Telecom sector in India is undergoing through a phase of poor financial health and further classification of the Licenses in narrow categories of Network and Service Delivery layers, would further disincentivize the Network Service operators to invest in the networks and infrastructure.

**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:**

As stated above in response to question no.1, the present regime is a well settled licensing regime and unbundling into further narrow fragmented categories will lead to increased complexities and additional financial burden on the existing licensees. We are of the view that putting any kind of restrictions on the telecom operators who create network, but not being able to deliver the services to their end customers, would take away all the incentive from these network operators (current UL license holders to invest in network and infrastructure). There is already an intense competition in telecom sector in India due to which the Telecom operators are under financial distress; therefore, any action of further fragmentation of the existing licensing regime will disincentivize the operators from making further investments and will inhibit innovation. Hence, we do not advocate for any change from the current UL licensing regime providing capability for a UL licensee to create the Network as well as deliver /provide the Services without any restrictions and the existing licensing regime should continue.



**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:**

Presently, UL-VNO license regime is working well with the NSOs and there is enough competition in the non-Mobile services segment. We do not suggest any change in the UL-VNO licensing regime and request TRAI to recommend further simplification in UL-VNO for a lighter regulatory regime.

With respect to licensing conditions for MVNO, as stated above, we are of the view that the regulations should provide incentives to MNOs to provide more competitive wholesale pricing to MVNOs, and to ensure that all MVNOs are given fair access to all MNO networks on equitable terms. S mandate that:

- MNOs be required to offer MVNO relationships on fair terms without discrimination
- MNO pricing to each MVNO they support be at like levels for like volumes and terms of service, and
- MNO pricing to MVNOs be regulated to ensure that MVNOs remain competitive
- That MVNOs be allowed to partner with multiple MNOs without restriction

We believe that above suggested measures would lead to a greater competition in the Access Services and would ensure that enterprise customers and end-consumers benefit immensely through greater diversity in services at competitive rates.

In view of the above, there is a need to review UL-VNO licensing conditions from the perspective of their scope of service and these should be accordingly amended basis the principles of light touch regulation. Secondly, TRAI may consider developing retail minus pricing tariff regime for provision of wholesale services by Mobile Network Operators to MVNOs so that MVNOs are able to effectively compete with MNOS in the retail market.

**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?**

**Response:**

As stated in our response earlier, we recommend that there should not be any further segregation of existing licensing regime as fragmented Network and Service Layers. Instead focus should be given to simplify UL-VNO (Access Services) license regime to attract more service delivery operators.

**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:**

As stated above, we do not recommend any change in existing licensing regime of integrated telecom service providers.

- 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:**

As stated earlier, we do not recommend any change in existing licensing regime of integrated telecom service providers. However, to promote penetration of MVNO, they should be allowed to parent with more than one NSO in their service area to provide 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.**

**Response:**

As stated earlier, we do not recommend any change in existing licensing regime of integrated telecom service providers and it should continue in current manner.

Further to it, additional measures should be taken to reduce the cost burden of existing operators to incentivize them to invest more in Network Infrastructure deployment. Currently one of the major cost elements for Telecom Network is maintaining quality of service by not only spending in operation and maintenance costs of fiber (repairs), but also to create multiple diverse fiber paths for same traffic due to multiple unplanned fiber cuts across the country. This is primarily because Telecom Infrastructure is not yet identified as a Critical Infrastructure in India for preventing frequent fiber cuts by other agencies working on the roads. Declaring Fiber infrastructure in country as a critical infrastructure and creating a robust legal framework around speedy Right of Way permission at reasonable charges etc. would help in increasing investments in Telecom Infrastructure by Telecom Service Providers (TSPs), by utilizing the saved capital.

The investments can also be further encouraged in the existing licensing regime by modernization and simplification of license regime in terms of levies required to be paid by the Operators, compliance processes and costs in the licenses, right of ways process and cost structure simplifications, identifying Telecom Infrastructure as a critical infrastructure to enable better uptime on fibers, thus ensuring better Network quality as a whole etc. In fact, Para 2.1 (b) (i) and (ii) of NDCP 2018 regarding charging regime for



telecom licenses needs to be taken up urgently without linking it with seemingly infructuous unbundling of license regime exercise.

- 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:**

As stated earlier, we do not recommend any change in existing licensing regime of integrated telecom service providers. It is reiterated that, there is no need to disturb the existing well settled Unified Licensing regime and further fragmentation of licensing regime will increase more complexities and unwanted financial burden on existing licensees.

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

**Response:**

UL-VNO license is empowered to only provide services and to deploy limited type of infrastructure and is almost analogous to SDOs (Service Delivery Operator) however the license conditions of UL-VNOs are very onerous as compared to global standards of licensing terms for SDOs. Therefore, it is submitted that TRAI instead of further unbundling the licensing layers should strongly recommend to DoT for simplification of UL-VNO regime as per the global standards and the UL VNO (Access Services) be allowed to be parented with two or more NSOs (Access Service Providers) as is permitted in the case of fixed line services.

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

**Response:**

As state above, we do not recommend any change in existing and well -established licensing regime. VNO license holders in the current license regime are like Service Delivery layer for Telecom services and UL-VNO regime should be simplified further to enable more players able to provide services using this regime.

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

**Response:**

In the response to this question, we would like to mention the following issues for the kind consideration of TRAI:



## **1. Areas of improvement for the financial viability of this sector and promote the investments.**

As stated above, there is no need for further unbundling of licenses. Each Telecom Service Provider should be enabled to provide services without being narrowly categorized into – Infrastructure, Network, Service, Application, etc. Today, a licensed telecom operator (UL Licensee) is already providing network, service, and application to its customers (as the case may be).

Given that telecom network creation is highly capital intensive with very long gestation periods, and cost intensive management, binding the network operator into narrow definitions of new envisaged license regime would drive away investments and innovation in network creation from telecom sector and will be a major deterrent for India's digital transformation goals and journey. On the contrary, scarcity of resources, lack of policy framework for Telecom Infrastructure treatment etc. has been plaguing the sector whether it be Spectrum, RoW permissions etc. We would urge the Authority to review these areas of improvement for the financial viability of this sector and promote the investments. Some of the suggestions in this regard are:

- Simplification of ROW process, uniformity of process across states and municipal corporations and reduction in ROW rates
- Reduction in rates of spectrum and policy for allocation of spectrum (e.g E-Band, V-Band, Microwave etc.) to ISPs/ NLDO who are not mobile operators.
- Classifying telecom services as essential services and telecom infrastructure as critical infrastructure to help reduce fiber cuts due to road expansions there by improving quality of services and reducing investments to build fiber across the country.

With technological evolution and Networks becoming more and more Software controlled, the boundaries between Network Layer and Service Layer would continue be blurring in future and all existing Service providers are investing / would be investing in these transformations of their networks and Services. To allow innovation and continued investment in upgrading the network and service capabilities, we again recommend that instead of tinkering with existing licensing regime in country, authority should look into areas of potential improvements ( like resources availability, financial viability, Operating costs optimization etc.) for overall improvement in the health of Telecom Sector and its long term sustainability.

## **2. Availability of unlicensed spectrum for Private 5G Deployments in India for captive purposes:**

Concept of Non-Public Network is not new and the growth of "Internet of Things" and connected assets is driving more and more enterprises across the Industry segments to explore opportunities that dedicated Private 5G network can offer for their specific locations, campuses, factories, area of operations, etc. The inherent features of Private 5G networks such as enhanced bandwidth, significantly lesser latency, unobstructed connectivity, improved security etc. offer complete control to Enterprises over their Operational procedures, better privacy protection of process and production related data and security advantage over a public network. They also offer opportunity to deploy customized use cases for the overall enterprises within their specified geography over the same underlying network infrastructure due to network slicing ability with differential prioritization eventually helping to improve



productivity, efficiency, costs optimization, safety and security in multifold. This will also propel the innovation in ways of doing the businesses in near future.

Given the advantages of private and dedicated 5G networks, many countries are opening up the 5G spectrums for private enterprises which can be deployed within their captive campuses. Further, we are of the view that Private 5G networks for enterprises will exploit new capabilities available in the next phase of the 5G standard, known as 3GPP Release 16. Release 16 aims to enable 5G to substitute for private wired Ethernet, Wi-Fi, and LTE networks, and includes multiple capabilities designed specifically for industrial environments. It is predicted that by 2026, most companies will be likely to deploy 5G in combination with existing connectivity, including wired Ethernet networks. However, in the long term—over the next 10 to 15 years—5G may become the standard of choice in demanding environments, when flexibility is paramount, reliability is mandatory, or for installations that require massive sensor density.<sup>1</sup>

The NDCP 2018 is also supporting such initiatives in the mission under Propel India as follows:

*To harness the power of emerging digital technologies, including 5G, AI, IoT, Cloud and Big Data to enable provision of future ready products and services; and to catalyse the fourth industrial revolution (Industry 4.0) by promoting Investments, Innovation and IPR.*

Further, NDCP 2018 also specify earmarking of adequate licensed and unlicensed spectrum for IoT/ M2M services in one of its strategies for catalyzing investments for Digital Communication sector which is vital in achieving the goal of Accelerate Transition to Industry 4.0 by 2022.

Some of the recent steps taken by various Regulators globally are as follows for making available spectrum for private 5G networks:

- The German telecoms regulator, BNetzA, reserved 100MHz of spectrum in the 3700MHz-3800MHz band to private companies. According to the regulator, 33 companies have bought 5G private licenses so far including Bosch, BMW, BASF, Lufthansa, Siemens and Volkswagen.
- The UK's Ofcom introduced a new licensing system in July 2019 covering localized access to the 3.8 - 4.2 GHz band (N77). To keep costs down, the license fee is fixed at £950 for three years to cover Ofcom's costs in managing the licensing. Many private enterprises are showing interest to acquire such spectrum for their dedicated & private 5G deployments.
- In France, frequencies in the 2600 TDD MHz band (band #38, 2570-2620 MHz) have been offered to metropolitan businesses by the regulator ARCEP. Spectrum is granted through a portal opened in May 2019. The airport operator, ADP Group and its subsidiary Hub One, have been granted a 10-year 4G and 5G license by ARCEP in February 2020 to be used in Paris' airports. Air France will also benefit from HubOne's 40 MHz. The major French electricity company EDF has also been awarded a 10-year license in the 2.6 GHz

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<sup>1</sup> <https://www2.deloitte.com/us/en/insights/industry/technology/technology-media-and-telecom-predictions/2020/private-5g-networks.html>



TDD band (20 MHz) on the Blayais nuclear power plant located on the banks of the Gironde estuary near Blaye. The mobility company TransDev has also been allowed to use the 2575-2595 MHz spectrum in Rouen, North West of France from 12 March 2020 to 11 March 2024. Other verticals like national railway company SNCF and Airbus have expressed their interest to the regulatory authority.

- In the Netherlands, spectrum at 3400-3450 MHz and 3750-3800 MHz is intended to be made available for local use.
- Sweden's 5G auction of the 2.3 and 3.5 GHz bands will reserve 80MHz of frequencies between 3720MHz and 3800MHz for local and regional licenses. The process was initially scheduled for Sprint 2020. It has been delayed at the end of 2019.
- In the UK, OFCOM issued a consultation from November 2019 until December 3, 2019 on draft statutory instruments that would support its local spectrum access and spectrum sharing policies. The regulator will dedicate the 3.8-4.2 GHz band for local deployments, requiring national operators to hand over unused licensed spectrum to enterprises. The lower 26 GHz band will be reserved for private and shared access as well.
- Other countries outside Europe including the US, Japan, Australia and Hong Kong are also moving forward with their plans to identify and allocate spectrum for localized, private 5G networks with a primary focus on the 3.7, 26 and 28 GHz frequency bands.
- The FCC is planning a CBRS 3.5GHz spectrum auction that is scheduled to begin in June 2020 and another C-band auction is expected to begin in December 2020. CBRS will open new opportunities for enterprises to deploy private 4G and 5G networks.
- Japan's communications ministry started to accept applications for the deployment of local 5G networks in December 2019. Tech company Fujitsu announced in February 2020, that it received Japan's first private 5G provisional license in the 28.2 GHz to 28.3 GHz range. Nokia announced it is building a strategic partnership ecosystem to bring private LTE and 5G networks to industrial and government customers in Japan.
- The Australian Competition and Consumer Commission also announced there would be opportunities for new entrants in the 5G market, including industry verticals to deploy private networks. In Australia, private networks are not new, especially in the mining industry.

### **Conclusion:**

Given the global momentum towards adoption and deployment of Private 5G networks in view of the benefits and advantages, we propose to TRAI that India should not be left behind and should recommend to DoT for de-licensing of suitable frequency bands specifically 26 GHz band which has sufficient bandwidth and is also quite apt for in-campus kind of deployments for Private 5G Networks. India has vast presence of Industries across various sectors ranging from Manufacturing, Transportation, Mining, Land & Sea Ports, Automotive, Steel, Pharma, Education,



Health, Agricultural, Food processing etc. where true potential of this futuristic technology can be exploited eventually contributing to the national GDP.

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