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Regulating a Slice: TRAI Takes Up Quality of Service for 5G

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Regulating a Slice: TRAI Takes Up Quality of Service for 5G

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✓ Every fact web-verified against primary sources

The Telecom Regulatory Authority of India released a consultation paper on August 5, 2026 carrying draft amendment regulations that would bring 5G network slicing within the quality-of-service framework. The headline proposal is that an operator creating a new slice must file details with the regulator at least 21 days in advance, with each slice treated as a separate tariff offering carrying its own quality parameters.

WHAT NETWORK SLICING ACTUALLY IS

This is the concept the whole item turns on, and getting it right is the difference between a strong answer and a vague one.

A **network slice** is a **logically independent, end-to-end virtual network** created on top of shared physical 5G infrastructure. The same towers, spectrum, transport links and core network can be partitioned into multiple slices, each configured with its own bandwidth, latency, reliability and security characteristics, and each behaving to its users as though it were a separate network.

The technical basis is **network function virtualisation** and **software-defined networking**: functions that were once dedicated hardware become software running on shared computing infrastructure, and can therefore be instantiated, configured and torn down under software control.

Standardised 5G slice types illustrate why this matters:

SLICE TYPE	REQUIREMENT	TYPICAL APPLICATION
eMBB , enhanced Mobile Broadband	High throughput	Video streaming, general consumer data
URLLC , Ultra-Reliable Low-Latency Communication	Latency of a few milliseconds, very high reliability	Remote surgery, industrial automation, vehicle-to-everything
mMTC , massive Machine-Type Communication	Very high device density, low data rate	Internet-of-things sensor deployments, smart metering

Slicing is the feature that distinguishes **5G standalone** architecture from 5G deployed on a 4G core. It is what makes enterprise 5G commercially distinct from consumer 5G, because an enterprise is buying a guaranteed performance envelope rather than best-effort capacity.

WHAT TRAI HAS PROPOSED

ELEMENT	PROPOSAL
Instrument	Draft Standards of Quality of Service of Access (Wireline and Wireless) and Broadband (Wireline and Wireless) Service (First Amendment) Regulations, 2026
Amends	The consolidated QoS framework notified 2 August 2024 , in force from 1 October 2024
Advance intimation	A new 5G network slice must be filed with TRAI at least 21 days in advance
Treatment	Each slice treated as a separate tariff offering , with its own QoS parameters
Financial disincentive, false reporting	Rs 2 lakh per benchmark for filing false QoS reports
Financial disincentive, non-compliance	Rs 5 lakh for non-compliance or other violations
Comments	By 26 August 2026 ; counter-comments by 7 September 2026

THE REGULATORY TENSION WORTH WRITING ABOUT

Network slicing sits in real, unresolved tension with **net neutrality**, and this is the most productive angle for an answer.

India's net neutrality framework, given effect through amendments to the Unified Licence following TRAI's **2017 recommendations** and the Department of Telecommunications' **2018** acceptance, prohibits discriminatory treatment of content, including any blocking, degrading, slowing down or granting of preferential speeds. India's framework is among the stricter ones internationally; the **2016 Prohibition of Discriminatory Tariffs for Data Services Regulations** had already barred differential pricing by content, which ended zero-rating arrangements.

A network slice is, by design, **differential treatment**. A URLLC slice guarantees latency that an eMBB slice does not, and the guarantee is meaningful only because the network prioritises it.

The reconciling device is the **specialised services** carve-out. The framework permits services optimised for particular content or applications where they are not usable as a substitute for general internet access and where their provision does not degrade general internet access. Slicing for a hospital's remote-surgery link or a

factory's automation network plausibly falls within it. Slicing that effectively creates a fast lane for general consumer internet plausibly does not.

That is precisely why **advance intimation and tariff filing** matter. They give the regulator visibility to police the boundary before a slice is deployed rather than after. Read that way, the 21-day requirement is less a compliance formality than the enforcement mechanism for net neutrality in a slicing environment.

THE COUNTER-ARGUMENT

The objection from operators is a reasonable one and belongs in a balanced answer.

Enterprise 5G is a business in which slices may be created, modified and retired quickly, and in which each customer's requirements differ. A 21-day advance filing per slice, with each treated as a separate tariff offering, imposes a compliance rhythm that does not match the technology's operating rhythm. Indian operators are also still rebuilding average revenue per user after a long tariff war and carrying substantial spectrum and network capital costs, and enterprise 5G is one of the few clear routes to revenue beyond consumer data.

The regulator's dual **mandate** is exactly this trade-off: consumer protection and orderly competition on one side, and the ease of doing business and investment incentives on the other. A good answer does not resolve it in a sentence but names it accurately.

UPSC RELEVANCE

GS Paper 3: Science and technology, developments and applications; infrastructure including telecommunications; awareness in the field of IT and computers.

Prelims pointers:

- **TRAI** is a **statutory** body under the **TRAI Act, 1997**; appeals against its orders lie to the **TDSAT**, the Telecom Disputes Settlement and Appellate Tribunal.
- TRAI's **recommendations** on licensing and spectrum are advisory to the government; its **regulations** on quality of service, tariffs and interconnection are **binding**. The distinction is directly examinable.
- The consolidated QoS regulations being amended were notified **2 August 2024** and took effect **1 October 2024**.
- Proposed: **21 days** advance intimation for a new 5G network slice; **Rs 2 lakh per benchmark** for false reporting and **Rs 5 lakh** for non-compliance. Comments by **26 August 2026**, counter-comments by **7 September 2026**.
- A **network slice** is a logically independent end-to-end virtual network over shared physical infrastructure, enabled by **network function virtualisation** and **software-defined networking**. The three standard slice categories are **eMBB, URLLC and mMTC**.

- Net neutrality in India operates through **Unified Licence** amendments following TRAI's 2017 recommendations, accepted in 2018, with a **specialised services** carve-out; the **2016** regulations had already prohibited discriminatory tariffs for data services.

UPSC RELEVANCE

draft first amendment to the consolidated QoS regulations of 2 August 2024, released for consultation 5 August 2026. New 5G slices to be filed with TRAI 21 days in advance; each slice treated as a separate tariff offering with its own QoS parameters. Rs 2 lakh per benchmark for false reporting, Rs 5 lakh for non-compliance. Comments by 26 August 2026, counter-comments by 7 September 2026.

logically independent end-to-end virtual networks over shared physical 5G infrastructure, enabled by network function virtualisation and software-defined networking. Slice categories: eMBB (throughput), URLLC (latency and reliability), mMTC (device density). Slicing requires a 5G standalone core.

statutory body under the TRAI Act, 1997. Recommendations on licensing and spectrum are advisory; regulations on QoS, tariffs and interconnection are binding. Appeals lie to TDSAT.

effected through Unified Licence amendments after TRAI's 2017 recommendations, accepted by DoT in 2018; prohibits blocking, degrading, slowing or preferential speeds, with a specialised-services carve-out. The 2016 Prohibition of Discriminatory Tariffs for Data Services Regulations ended differential pricing by content.

Sources: TRAI, Department of Telecommunications, Business Standard

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