Singtel

# What breaks when latency rises?



**20 ms. 50 ms. 100 ms. 200 ms.**

Latency is the time between an action and its response. As it rises, the effect depends on the application. Machine control, voice, collaboration, and payments each have a different tolerance, and that tolerance determines the point at which performance begins to suffer.

| | 20 ms | 50 ms | 100 ms | 200 ms |
|---|---|---|---|---|
| Machine control | Remote control applications that need under 10 ms are already outside their range.[1] | More industrial applications begin to move beyond their preferred latency range.[1] | Too slow for many tightly synchronised control applications.[1] | Unsuitable for many real-time control scenarios.[1] |
| Voice | No meaningful impact for most conversations. | Still highly responsive. | ITU guidance indicates most calls are barely affected below 150 ms one-way.[3] | Above 150 ms one-way, conversational quality can begin to deteriorate.[3] |
| Collaboration | Feels real time. | Low-latency conditions support smooth interaction. | Less tolerance for added jitter, packet loss, or routing delay. | Lag can become noticeable in real-time calls and collaboration.[4] |
| Payments | Card authorisation systems are built to process decisions in milliseconds.[2] | Additional delay starts adding to an already multi-step transaction path. | Delays can accumulate across authentication, fraud checks, and authorisation. | Transactions still complete, but added latency can extend checkout or authentication time. |
| What it means | **Critical for fast machine response** | **Still comfortable for most human interactions** | **Delay starts to affect real-time performance** | **Delay becomes noticeable to users** |

## Delay builds up between user, application, and cloud

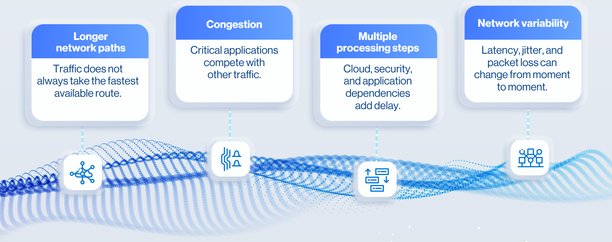
Latency rarely comes from a single point. Each step along the path can add to it.

**Longer network paths**
Traffic does not always take the fastest available route.

**Congestion**
Critical applications compete with other traffic.

**Multiple processing steps**
Cloud, security, and application dependencies add delay.

**Network variability**
Latency, jitter, and packet loss can change from moment to moment.



## Singtel Algo-Routing keeps critical traffic on the right path

**Over 30%*** Improvement in Internet performance reported by Singtel.[5]



AI-driven routing continuously analyses network conditions and selects faster, more reliable paths.

Latency · Availability · Packet loss · Jitter



## Singtel 5G+ Priority

5G network slicing allocates network resources according to the needs of specific users, devices, and applications.[6]

Lower latency · Reliable connectivity · Mission-critical traffic

## Every application has a latency limit.

**20 ms**
can already matter for machine control.

**100 ms**
can affect real-time responsiveness.

**200 ms**
can become noticeable in human interactions.

Keeping traffic on the right path, with the right priority, helps reduce unnecessary delay.

## Discover how Singtel helps keep latency-sensitive applications moving

Discover now


**References**

1 3GPP, TS 22.104: Service requirements for cyber-physical control applications in vertical domains
2 Visa. Decoding ISO 20022: Lessons for cross-border payments, 2023
3 ITU-T. Recommendation G.114: One-way transmission time, 2003
4 Microsoft. Monitor call and meeting quality in Microsoft Teams., 2026
5 Singtel. Singtel Algo-Routing, 2026
6 Singtel. Singtel 5G+ Priority, 2026


* Results depend on the traffic path and the client's network configuration, subject to terms and conditions


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