Latency Types
Speedtest Intelligence®

Latency

Latency (also called ping or lag) measures how quickly a device gets a response after a request has been sent. Latency has always mattered to online experience, however, poor latency is becoming more obvious as the internet gets faster and more devices are connected online. The importance of latency cannot therefore be understated, from streaming to gaming poor latency is becoming increasingly important.

Speedtest Intelligence offers two types of latency measures to help consumers identify where they may have bottlenecks affecting their online experience.

Idle latency is a baseline measure captured before the download portion of the Speedtest begins. It represents the latency encountered while the network is not in heavy use. High idle latency is a broad indicator of a latency issue. When a consumer encounters high idle latency, we recommend testing with another device to help narrow down the issue. If high idle latency is found on multiple devices, we recommend restarting the home router and/or moving it to a more centralized location before moving on to other trouble-shooting steps.

Loaded latency, in contrast to idle latency, is measured while the network is performing the data-intensive download and upload portions of Speedtest and helps pinpoint where a latency issue may be arising. Loaded latency tests the increasingly common scenario where a consumer's online experience may be affected by the presence of data-heavy applications sharing the same connection. A common situation for receiving high download latency might be a household member installing a large game whereas high upload latency may occur when a household member is recording a video on their phone and automatically uploading it to the cloud. When consumers experience a low idle latency but a high loaded latency, we suggest they contact their router manufacturer or service provider to help trouble-shoot.

Idle Latency Measures

Speedtest Intelligence offers two idle latency measures: Minimum Latency and Multi-Server Latency. Both are measured before the download test starts.

Minimum Latency (formerly, Latency in Speedtest Intelligence Portal) measures the best case latency for the user at the time they decide to take a Speedtest. Across one or more pings made prior to the download portion of a Speedtest, the lowest ping value is determined – this represents the Minimum Latency. Latency was renamed to Minimum Latency to disambiguate it from Multi-Server Latency and Loaded Latency. Minimum Latency is still available in Speedtest Intelligence Portal and data extracts.

Minimum Latency Test Count - Since Minimum Latency is not dependent on server selection occurring, the Minimum Latency Test Count is equal to the Performance Test Count.

Multi-Server Latency - Whereas Minimum Latency measures the most optimistic latency, Multi-Server Latency is designed to represent the latency the user should expect to encounter more generally when their network is not under heavy load. Multi-Server Latency is computed from the multiple pings conducted during server selection. During server selection, the application pings several on- and off-net servers, multiple times each, to determine which servers to use during the test (see Speedtest methodology for full details on server selection). Multi-Server Latency is available in Speedtest Intelligence Portal and data extracts.

Multi-Server Latency Test Count - Since Multi-Server Latency is conducted only when server selection occurs, the Multi-Server Test Count is less than or equal to Performance Test Count.
Latency Measures Summary Table

Latency Filtering in Speedtest Intelligence Portal

In addition to latency measures, SI Portal offers the ability to filter Fixed network results by their Minimum Latency value. This filter serves as a proxy measure for distinguishing low latency technologies, such as fiber, from higher latency technologies.

- High Latency
  Test results from the “All Fixed” technology type that have a Minimum Latency greater than 16 ms.
- Low Latency
  Test results from the “All Fixed” technology type that have a Minimum Latency less than or equal to 16 ms.