Factors Influencing RTT

Actual round trip time can be influenced by:

* **Distance**– The length a signal has to travel correlates with the time taken for a request to reach a server and a response to reach a browser.
* **Transmission medium**– The medium used to route a signal (e.g., copper wire, fiber optic cables) can impact how quickly a request is received by a server and routed back to a user.
* **Number of network hops** – Intermediate routers or servers take time to process a signal, increasing RTT. The more hops a signal has to travel through, the higher the RTT.
* **Traffic levels**– RTT typically increases when a network is congested with high levels of traffic. Conversely, low traffic times can result in decreased RTT.
* **Server response time**– The time taken for a target server to respond to a request depends on its processing capacity, the number of requests being handled and the nature of the request (i.e., how much server-side work is required). A longer server response time increases RTT.