

Explanation of Connect Time

Information:

Environment
<ul style="list-style-type: none">• Synthetic Classic Portal
Symptoms
I am measuring network speed by looking at the round-trip delay of my network traffic. To do this, I need to better understand Connect Time in the Synthetic Classic Portal. How does the Portal measure Connect Time?
Solution
<p>The Connect Time component refers to the time in seconds that it takes a client browser or Synthetic Classic Agent to connect to a web server across a network. Its duration is measured from the moment a connection is been established to the moment that the connection is closed.</p> <p>After obtaining the target IP address using DNS Lookup, the Agent establishes a TCP connection with the device at the specified IP address. A TCP connection is started when two things occur:</p> <ol style="list-style-type: none">1. The Agent transmits a special synchronize (SYN) packet.2. The server transmits a synchronize /acknowledgement (SYN/ACK) packet. <p>The initial Connection Time is the number of seconds that elapsed between the Agent transmitting the SYN to the server and receiving the SYN/ACK response back.</p> <p>This metric provides an excellent measure of the network speed by capturing the round-trip delay between the Agent and the Server. Under normal conditions, very little delay occurs within the server's TCP software, and no server applications software is involved in this process. However, retransmission delays may be caused by:</p> <ul style="list-style-type: none">• The server's TCP stack buffers filled by a heavy load that is not efficiently handled by the server application.• The initial SYN packet is lost and must be retransmitted.