LatencyVsThroughput

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Latency:

Latency is the delay in network communication. It shows the time that data takes to transfer across the network.

Throughput:

Throughput refers to the average volume of data that can actually pass through the network over a specific time.

Impacting Factors: Latency Vs Throughput

Latency	Throughput
Location	Bandwidth
Network Congestion	Processing Power
Protocol Efficiency	Packet Loss
Network Infrastructure	Network Topology

How can you improve Network Latency and Throughput ?

1. **Caching:**
   Caching in networking refers to the process of storing frequently accessed data geographically closer to the user. For example, you can store data in proxy servers or content delivery networks (CDNs).

2. **Transport Protocol:**
   By optimizing the transport protocol that you use for specific applications, you can improve network performance.

3. **Quality of Service (QoS):**
   You can use a quality of service (QoS) strategy to manage and optimize network performance. QoS allows you to divide network traffic into specific categories. You can assign each category a priority level.

Summary of Differences: Throughput and Latency

	Throughput	Latency
What does it measure?	Throughput measures the volume of data that passes through a network in a given period. Throughput impacts how much data you can transmit in a period of time.	Latency measures the time delay when sending data. A higher latency causes a network delay.
How to measure?	Manually calculate throughput by sending a file or using network testing tools.	Calculate latency by using ping times.
Unit of Measurement	Megabytes per second (MBps).	Milliseconds (ms)
Impacting Factors	Bandwidth, network processing power, packet loss, and network topology.	Geographical distances, network congestion, transport protocol, and network infrastructure.