# Model 1 Measuring Your Network

Your network performance can be measured in two ways:

- **bandwidth** – the rate at which data is downloaded or uploaded to a network, measured in bits per second (bps), kilobits per second (kbps), or megabits per second (Mbps)
- **latency** – how much time it takes (in milliseconds) for a request to reach its destination

## Questions (10 min) Start time: _____

**1**. Consider how performance should be measured:

a) For bandwidth, would good performance be a large number or a small number? large

b) For latency, would good performance be a large number or a small number? small

**2**. Use an Internet speed test (https://www.google.com/search?q=speed+test) to measure bandwidth here on campus and later at home.

a) On campus: 6.63 Mbps

b) At home: 9.32 Mbps

**3**. Use Pingdom's speed test (https://tools.pingdom.com/) to measure the average latency between San Francisco and:

a) http://google.com Performance grade: B 85, Load time: 1.55 s

b) http://whitehouse.gov Performance grade: B 80, Load time: 1.54 s

c) Any website you use http://facebook.com takes 1.60 s

**4**. Search for "Internet speed by state" and "Internet speed by country" to find the interactive maps on fastmetrics.com.

a) Which state in the US has the fastest **average peak speed**? Which state has the slowest? Delaware was the fastest, Kentucky was the slowest (when the map was created)

b) What is the difference between the fastest and slowest states? 75 Mbps − 34 Mbps = 41 Mbps (DE is more than twice as fast as KY)

c) Which country has the fastest **average speed**? How does the US compare?

South Korea has 26.7 Mbps; the US only has 14.2 Mbps