



2018 *This Is What Happens In An Internet Minute*





1 SECOND in the life of a CPU

1 CPU cycle	0.3 nanoseconds	1 second
Level 1 cache access	0.9 nanoseconds	3 seconds
Level 2 cache access	2.8 nanoseconds	9 seconds
Level 3 cache access	12.9 nanoseconds	43 seconds
Main memory access	120 nanoseconds	6 minutes
Solid-state disk I/O	50-150 microseconds	2-6 days
Rotational disk I/O	4- 10 milliseconds	4-12 months
Internet: SF to NYC	40 milliseconds	4 years
OS virtualization reboot	4 seconds	423 years
SCSI command time-out	30 seconds	3000 years
Hardware virtualization reboot	40 seconds	4000 years

The Significance of Latency

If storage devices were sprinters



In the time it takes a 15K Hard Drive to travel the length of a basketball court (94 feet)



NAND Flash can traverse the distance of a marathon (26.2 miles)



3D Xpoint can circumnavigate the globe (24,902 miles)