

The speed of light is unlikely to improve: consequences

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In the process of designing a way for a game to obtain the the ping time to a game server, the question arose as to what units the ping time should be expressed in. The original idea was to express the ping time in milliseconds, since that's the unit in general use.

But someone asked, "What if networking technology improves to the point where sub-millisecond ping times become commonplace? Should we use a time reporting unit with higher resolution, so that if there are multiple servers with sub-millisecond times, the app can pick the best one?"

Well, first of all, for people playing online games, any ping time less than 20 milliseconds is probably good enough. If you had to choose between two servers that both have sub-millisecond ping times, you would be ecstatic.

Second, the speed of light is unlikely to improve. The absolute lowest ping time is therefore the time it takes light to travel from your computer to the other computer, and back. Make all the improvements in network technology you want. A system more than 150km away will never be able to produce a sub-millisecond round-trip ping time.

We stuck with milliseconds.

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