

Why PingPlotter recommends a timeout of at least 1000 ms with ICMP using Windows DLL

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Question

PingPlotter is warning me that Time to wait for ping replies is set below 1000ms. Why does that matter?

Solution

With ICMP using Windows DLL, a timeout under 1000ms can make Windows report replies as timed out even though they arrived in time. PingPlotter records those as packet loss, even though that isn't what's actually happening on your network. To fix it, do one of the following:

- Set "Time to Wait for ping replies" to 1000ms or higher. The default is 3000ms.
- Keep your timeout and change Packet Type to ICMP using Raw Sockets, TCP Packets, or UDP Packets. These don't use the Windows DLL, so they aren't affected

See [Engine Options](#) for details on each.

Why this happens

This packet type sends pings through a built-in Windows function (IcmpSendEcho). Most Windows ping tools use the same function, including the ping command, so they're all subject to this. Given a timeout under 1000 ms, that function marks some replies as timeouts at random, even fast ones. At 1000 ms or more, it behaves. The loss is intermittent and often small, so it's easy to miss. Microsoft hasn't documented or fixed this. Other developers, including the OpenJDK team, work around it the same way: never hand Windows a timeout under 1000 ms..

Further reading

- [Why does IcmpSendEcho2Ex report false timeouts when timeout is set below 1000 ms? \(Stack Overflow\)](#)
- [OpenJDK fix for InetAddress.isReachable \(OpenJDK mailing list\)](#)