

RE: BUG in Winsock on P4 HT CPU

Source:

<http://www.tech-archive.net/Archive/Development/microsoft.public.win32.programmer.networks/2004-09/0163.html>

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If you read the help on WSAAsyncSelect it states

For FD_READ, FD_OOB, and FD_ACCEPT events, message posting is level-triggered. This means that if the reenabling routine is called and the relevant condition is still met after the call, a WSAAsyncSelect message is posted to the application. This allows an application to be event-driven and not be concerned with the amount of data that arrives at any one time. Consider the following sequence:

Network transport stack receives 100 bytes of data on socket s and causes Windows Sockets 2 to post an FD_READ message.
The application issues `recv(s, buffptr, 50, 0)` to read 50 bytes.
Another FD_READ message is posted since there is still data to be read.
With these semantics, an application need not read all available data in response to an FD_READ message— a single `recv` in response to each FD_READ message is appropriate. If an application issues multiple `recv` calls in response to a single FD_READ, it can receive multiple FD_READ messages. Such an application can need to disable FD_READ messages before starting the `recv` calls by calling WSAAsyncSelect with the FD_READ event not set.

Based on the above, if you want to call `recv` multiple times within `OnReceive()`, you should first disable FD_READ (via `AsyncSelect()`), issue all of your `recv` (`Receive()`), and then reenable FD_READ (via `AsyncSelect(FD_READ)`). This will work correctly. However, for `CAsyncSocket` derived classes you need to keep track of the events you have enabled (I wish there was a way to query winsock for the events you are currently registered for).

The tough part is I did not see any explicit documentation that states "You cannot call `Receive()` multiple times from within `OnReceive()`". I read the WSAAsyncSelect documentation to eventually figure it out (and then I read it about 10 times before realising what had to be done). I am not an MFC expert by any means so perhaps the `OnReceive()` documentation is out there somewhere...but it would have been nice to see it explicitly stated.

"Greg Ennis" wrote:

- > *I have confirmed a bug in Winsock API when running on fast Hyperthread P4*
- > *CPU's. If you look in the newsgroups for posts by Glambert and myself you*
- > *will see othe*