Subject: Time callbacks when ticks overlap
Posted by Zbych on Fri, 23 Jul 2010 09:03:38 GMT
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Hi,

I have a problem with time callbacks. They use GetTickCount which overlaps every ~50 days and do all calculations on 32-bit variables. Unfortunately Ctrl::TimerProc doesn't work correctly when (GetTickCount + delay) overlaps.

For example when GetTickCount returns 0xFFFF0000 and I want to set time callback to 2 minutes (0x1D4C0 ms), TimeEvent.time is set to 0x0000D4C0 and Ctrl::TimerProc executes callback every time (because this statement "list->GetNext()->time < time" is true).
This situation is more likely to happen on posix, because GetTickCount returns ticks since the Epoch, not system power on.

My proposition is to change time comparison:

old:
```
while(list->GetNext() != list && list->GetNext()->time < time) {
```

new:
```
while(list->GetNext() != list && ((int)(time - list->GetNext()->time)) > 0) {
```

Casting to a signed number is a must.

and to remove this (I think it is unnecessary):
```
 if(e->time > 0x80000000)
  e->time = 0;
```