

## Re: sending message to PC that is offline

*Source:*

<http://www.tech-archive.net/Archive/Development/microsoft.public.win32.programmer.tapi/2004-04/0119.html>

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First of all, thanks for the interesting info! I am really new to these newsgroups and to posting, but I'll try to do my best when posting. However, the following is a really long message...

I'd like to be more specific about what I want my application to do. I hope this can be done without requiring the users to have any \*HARDWARE\* except what most users already have anyway – typical PC, typical DSL or cable modem and all that stuff. I don't mind if this requires me to develop some \*SOFTWARE\* that the user must install, though hopefully not too complicated to develop. This might be an application, a driver, whatever.

Suppose someone who is, say, a football fan is subscribed to a service run by a company, so that every time a news event happens that fits certain criteria, e.g. every time his favorite football team loses, the company's server will instantly "notify" his PC, in any way whatsoever (e.g., an Instant Message through ICQ/whatever, or through the service's client application's own TCP connection, or something else), but ASAP – say, no more than 1 minute after the end of the game. As a result, the PC will download and display a web page with the news item. The notification itself doesn't necessarily have to include any content at all, it can simply be a trigger that "raises a two-state flag", telling the service's client application: "something happened, so contact us for details". e.g., maybe the application is configured to always respond by connecting to a certain server to get the page URL, if the URL wasn't included already in the notification (Why not simply include the URL in the notification? Because sometimes it may not be possible, e.g., maybe it's impossible if the notification has to first "wake" the PC or modem – see below).

And suppose I insist that the user will \*NOT\* have to do anything such as receive a phone call or SMS, or open a browser first. The user won't even know that something happened until the page will simply pop-up all of a sudden on the screen (never mind now that this may disturb the user, I can handle that, e.g. with a DnD mode. That's not the issue here).

The main problem seems to be that the ISPs I know require you (at least in case of DSL. maybe in cable too?) to log in with a username and a password, and the user's PC automatically terminates the connection after a certain, probably user-configurable, idle time, just like in analog connections. This is what I meant by "Not logged in". So I guess that makes it a problem to simply use the Internet, e.g. with ICQ, or the application's own TCP connection. I could, of course, ask the user to change (or have my installation program change) the timeout setting for idle time automatic disconnect, or even turn off the disconnect feature. However, I'd rather not do that, because if this feature exists and is used, maybe there is a good reason for that. e.g., maybe this is intended to make the PC less exposed to attacks or decrease the load on the ISP (though the disconnect doesn't save the user money, assuming flat rates in broadband, and the disconnect doesn't release the telephone line for telephone usage if we're talking about DSL or cable, where that's not a problem anyway) – I don't want anyone to blame me!

Until reading Gary E. Ansok's message, I thought *\*ALL\** broadband users are, for a large part of the time, *NOT* logged in, even when their PC is not shut down (despite those popular huge uploads/downloads, especially with file sharing applications, which mean that in many PCs the connection is not necessarily idle even if the user hasn't even touched the PC for hours). If I understand correctly, if only "some ISPs" and not all of them require a login, then maybe with ISPs that do not require it, the connections are always on? This could be really good news. So I wonder: since I want as many PC users as possible, in as many countries, ISPs and broadband technologies (various types of DSL, cable, and maybe others too) as possible to be able to simply download and install the software, choose the interesting news topics and all that, and start getting notifications anytime something happens – can anyone roughly estimate how likely it is, in average, for a given typical PC user with a broadband modem, anywhere in the world, at a given point in time to be logged out? Maybe this is not that big an issue as I thought!

But suppose the PC *\*IS\** logged out or even shut down. That makes me ask *\*MANY\** additional annoying questions with even more question marks (sorry, I really don't know a lot about this stuff as you can see...):

Maybe the solution is the Wake-on-LAN (or wake-on-Modem???), mentioned in some of your kind responses. But before I ask about that – I've been wondering about not being able to use a telephone call to a DSL modem. Since Wake-on-LAN/Modem maybe problematic – see below, and since in some cases the server may know only the user's phone number and not his IP address: Are there any DSL modems that do the frequency filtering in their own hardware (i.e. no separate filter) or in software, so that the filtering can be controlled by a driver??? And if there are, then is it possible to write a driver that tells the DSL modem that when there is no socket open, the modem must *\*NOT\** ignore incoming phone calls, and it must react to a certain caller ID or a

certain combination of low frequency tones such as those that can be passed over a regular telephone call? Even if the modem is not supposed to support caller ID because it is a DSL modem, still, if the low frequencies somehow \*CAN\* get to the modem, maybe it can react to them?

Anyway, regarding the Wake-on-LAN (or wake-on-Modem? not sure which is relevant):

That requires the server to know the client's IP address, right? And I understand from Gary E. Ansok's message that if not always logged in, then the same user may not have the same IP address always. Does the answer to the question whether it's always the same address or not depend on the ISP? On the user settings? How typical (generally, in the world, for broadband users) is it for a user NOT to have always the same address? I mean, how much of a problem may this be?

And if the IP address nevertheless \*IS\* always the same for a certain user (warning, maybe stupid question:) can I use that IP address even when the user is logged out, to "tell" the PC (e.g. my application) to log in??? or, is the address meaningless as long as the PC is logged out? I read that if Wake-on-LAN is enabled then the PC may suddenly turn on, e.g. as a result of a port scan. If that's true, a situation in which the PC is not even shut down but "only" logged out sounds to me, at first, easier to handle. I mean, if you the server can contact the PC when it is not even turned on, then sure you can do this when it \*IS\* turned on and "only" logged out. But maybe I'm wrong – maybe while one PC can be shut down but have the IP address remain "active" (??? whatever that means. open socket with a shut down PC???), another PC may, ironically perhaps, be still turned on but logged out for a long time and its last known IP address is not relevant anymore? So I may be able to talk to the shut down PC and may not be able to talk to the one that is still turned on?

And suppose this whole thing really is the solution, does the user need a LAN for this? And how likely, roughly, is a potential user anywhere in the world to have a PC/modem/ISP/firewall/OS/BIOS/whatever that enable the whole thing? And even if the ISP and hardware enable this, must I give the user complicated or annoying instructions on how to enable the whole thing when installing the application (e.g., maybe, turn on the Wake-on-LAN or Wake-on-Modem feature, setup the internet connection, setup the firewall, and so on)? Can the installation program do everything automatically? (e.g., must it, and can it, access the BIOS settings???) And are these manual/automatic changes potentially harmful, e.g. to security? As I said – I don't want anyone to blame me!

Sorry for the really long message...

Any additional help will really be appreciated. Thanks!