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NearShore Solutions Whitepaper

Modem Device Driver Development for Computer OEM

Problem:

Notebooks and PCs usually come pre-installed with the latest release of operation system with its hardware drivers.

If, for any reason, you have to continue working with a previous OS version, then the problem of finding device drivers for new devices could become a nightmare. Device manufacturers usually provide drivers only for the actual latest version of OS, and the OS supplier may have already ceased support for such older version.

It happened so in the case described here, that the customer of a computer manufacturer wanted to roll out a significant number of newest generation laptops, but had to stay for some time with W2000 for internal compatibility reasons.

Ericsson, the wireless modem manufacturer only supported WXP and later, the WXP driver did not work, and Microsoft had no developer support for W2K any more.

Imagine the situation for both the computer manufacturer, who may loose a significant order, and the customer: should he roll out outdated hardware to users needing new equipment?

The Solution:

Fortunately most wireless devices have a USB interface and conform to a more or less standard set of specifications, and have Communications Device Class (CDC) and Wireless Mobile Communication (WMC) subclass specifications.

These specifications describe the data format for communications between PC and wireless card, and a programmers' interface to query device capabilities.

We then used a general USB communications device driver, based on CDC and WMC specifications, developed a driver description file for the Ericsson modem, specified a set of TAPI (Telephony API) parameters, and created a general device driver, bringing the wireless device to life.

And this within an astonishing short time, and at very attractive cost.

The only drawback: some specific device features were not accessible through this approach, but this was acceptable to the customer.

At a GUI level, we provided a modem manager which switches the modem on/off, allows to enter a SIM pin, display the modem and connection status, and usage/billing information.

This is how one can make a new device to work under an old OS.

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