

Read Firmware version GemCore Pro based readers

Procedure to read the firmware version:

After a successful call to SCardConnect PC/SC function, call SCardControl PC/SC function with the following parameters:

```
LONG SCardControl (
    SCARDHANDLE hCard,
    DWORD dwControlCode,
    LPCVOID lpInBuffer,
    DWORD nInBufferSize,
    LPVOID lpOutBuffer,
    DWORD nOutBufferSize,
    LPDWORD lpBytesReturned
);
```

Parameters:

hCard	[in]	This is the reference value returned from SCardConnect.
dwControlCode	[in]	IOCTL_SMARTCARD_VENDOR_IFD_EXCHANGE (see note 1).
lpInBuffer	[in]	Pointer to a buffer containing a string of bytes representing the command. The read firmware command is 0x02.
nInBufferSize	[in]	Size, in bytes, of the input buffer. The read firmware command length is 1.
lpOutBuffer	[out]	Pointer to the output buffer. Must point to a valid buffer. This buffer contains a string of bytes representing the read firmware command response. The firmware version "GemKBDL-R1.00-YR" is coded in ASCII format as following : 0x47 0x65 0x6D 0x4B 0x42 0x44 0x4C 0x2D 0x52 0x31 0x2E 0x30 0x30 0x2D 0x59 0x52. The firmware version "GemKBDL-V1.00-YS" is coded in ASCII format as following : 0x47 0x65 0x6D 0x4B 0x42 0x44 0x4C 0x2D 0x56 0x31 0x2E 0x30 0x30 0x2D 0x59 0x53.
nOutBufferSize	[in]	Size, in bytes, of the output buffer.
lpBytesReturned	[out]	Pointer to a variable that receives the actual count of bytes returned by the function in the output buffer. Must be non-NULL pointer to a valid value. The read firmware response is 16 bytes length.

Returned values :

If the function ...

Succeeds

Fails

The returned value is ...

SCARD_S_SUCCESS (0L : 00000000h)

An error code (see the error codes list in PS/SC

Specifications or in the "SCardErr.h" PC/SC header file)

Note 1 :

IOCTL_SMARTCARD_VENDOR_IFD_EXCHANGE is the function's control code and it's vendor proprietary. It should be calculated through the following SCARD_CTL_CODE macro :

```
#define FILE_DEVICE_SMARTCARD          0x00000031
#define FILE_ANY_ACCESS                0
#define METHOD_BUFFERED                 0

#define SCARD_CTL_CODE(code)          CTL_CODE(FILE_DEVICE_SMARTCARD, \
        (code), \
        METHOD_BUFFERED, \
        FILE_ANY_ACCESS)
```

CTL_CODE : it's a Microsoft macro included in the "WinIOCTL.h" PC/SC header file.
Code : 2048d (Gemplus IFD exchange code).