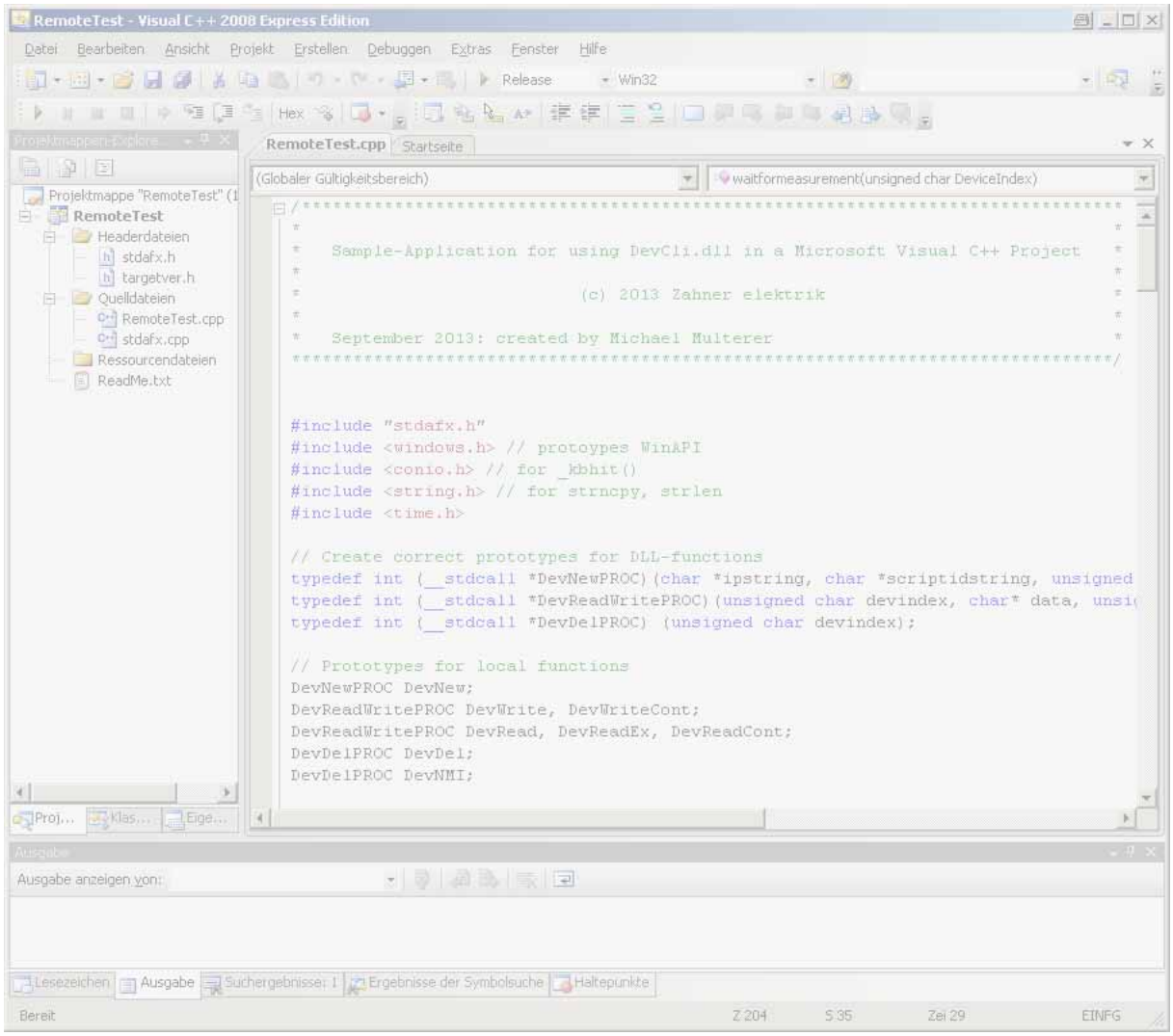
DevCli.dll

Programmer's Reference



1. Introduction

Thales offers a software interface to extend its connectivity towards third party software. As this interface is realized by TCP/IP socket communication the third party software can even run on a separate computer and communicate with Thales over network. The Windows® dynamic link library DevCli.dll provides all functions necessary for communication with the Thales window over TCP/IP. It is used for several tasks like Signal Acquisition with Net VIs and Remote Control of the IM6/*Zennium*. This manual describes the common low level communication functions used whereas details of the applications are given in the manuals of Signal Acquisition and Remote Control.
The LabVIEW™ sample applications of Net VI and Remote Control also use the functions of DevCli.dll encapsulated in a LabVIEW™ library.

2. Function Overview

The complete communication between third party software and Thales is realized by the functions exported by c:\flink\DevCli.dll. Although the functions are presented in Delphi syntax, their use is not limited to a dedicated development platform. They can be used in every software which is able to call functions of a Windows® Dynamic Link Library (DLL).
The following functions are available:

```
function DevNew(IPAddr,DevName:PChar;Size:SmallInt):Integer;stdcall;
function DevNewEx(IPAddr,DevName:PChar;Size:SmallInt):Integer;stdcall;
function DevDel(DevIdx:Byte):Integer;stdcall;
function DevNMI(DevIdx:Byte):Integer;stdcall;

function DevWrite(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;
function DevRead(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;
function DevWriteEx(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;
function DevReadEx(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;
function DevWriteCont(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;
function DevReadCont(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;
```

3. Administrative Functions

DevNew(IPAddr,DevName:PChar;Size:SmallInt):Integer;stdcall;

This function initialises the TCP/IP communication with the Thales window and has to be called before using any other function.

Parameters

IPAddr	pointer to string containing IP-address or computer name, e.g. "127.0.0.1"
DevName	pointer to string containing name of device, choose a descriptive name for the Net VI, use "ScriptRemote" for remote control
Size	integer (16 bit) setting the buffer size used by Thales for communication in bytes, e.g. 256

Return Value

-1, 0	setup of communication to device failed
> 0	device index (DevIdx) for further communication

If communication with the Thales window fails, the following message box is displayed. In case the message box is unwanted for a silent retry use DevNewEx.

DevNewEx(IPAddr,DevName:PChar;Size:SmallInt):Integer;stdcall;

Same as DevNew, but no message box is displayed if communication with the Thales window fails.

DevDel(DevIdx:Byte):Integer;stdcall;

This function should be called to terminate the TCP/IP communication properly when the Client is shutting down.

Parameters

DevIdx device index obtained from DevNew

Return Value

-1	error, e.g. invalid device index
0	success

DevNMI(DevIdx:Byte):Integer;stdcall;

Initiate an NMI (non maskable interrupt) on the IM6/*Zennium*, can be used to boot an IM6/*Zennium* remote.

Parameters

DevIdx	device index obtained from DevNew

Return value

-1	error, e.g. invalid device index
0	success

4. Read/Write Functions

Remark on read/write functions:
There are three pairs of read/write functions called DevRead/DevWrite, DevReadEx/DevWriteEx and DevReadCont/DevWriteCont which use different data buffers and are therefore not exchangeable. Watch out which function is used by Thales in each special case and use the appropriate counterpart.

DevWrite(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;

Write to Thales, overwrite last data in buffer.

Parameters

DevIdx	device index obtained from DevNew
Data	pointer to write data buffer
N	number of bytes to write, 32 bit integer

Return Value

-1	error, e.g. invalid device index
> -1	number of bytes written

DevRead(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;

Read data from Thales, clear source buffer.

Parameters

DevIdx	device index obtained from DevNew
Data	pointer to buffer for received data
N	not used

Return value

-1	error, e.g. invalid device index
> -1	number of read characters (including 0)

DevWriteEx(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;

Write data to Thales, overwrite last data in buffer.

Parameters

DevIdx	device index obtained from DevNew
Data	pointer to write data
N	number of bytes to write, 32 bit integer

Return Value

-1	error, e.g. invalid device index
> -1	number of bytes written

DevReadEx(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;

Read data from Thales, keep data in buffer. Subsequent calls of DevReadEx return the same result until it is overwritten by Thales.

Parameters

DevIdx	device index obtained from DevNew
Data	pointer to buffer for received data
N	not used

Return value

-1	error, e.g. invalid device index
> -1	number of read characters (including 0)

DevWriteCont(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;

Write to Thales using a FIFO buffer. This function is used by Remote Control of Thales Z2.21 and later.

Parameters

DevIdx	device index obtained from DevNew
Data	pointer to write data buffer
N	number of bytes to write, 32 bit integer

Return Value

-1	error, e.g. invalid device index
> -1	number of bytes written

DevReadCont(DevIdx:Byte;var Data;N:Integer):Integer;stdcall;

Read data from Thales using a FIFO buffer. This function is used by Remote Control of Thales Z2.21 and later.

Parameters

DevIdx	device index obtained from DevNew
Data	pointer to buffer for received data
N	not used

Return value

-1	error, e.g. invalid device index
> -1	number of read characters (including 0)