CIF32 provider

hilscher CIF board

Version 1.0.1

User's guide

July 17, 2012

[Remarks]

[Revision history]

Version	Date	Content
1.0.0.0	2006-02-24	First edition
1.0.1.0	2007-04-03	Added device information.
1.0.1.1	2010-02-11	Added error codes.
1.1.0.1	2011-03-11	Added information about provider registration tool
1.1.0	2012-07-17	Changed the document versioning rule.

[Hardware]

Model	Version	Notes
CIF50-DPS	-	Operation was confirmed with the model number 1050.420.

Contents

1. Introduction

This is a user's guide of the CIF32 provider that is the provider that accesses CIF board manufactured by hilscher. For details, please refer to Device Driver Manual of hilscher.

Attention: To use this CIF32 provider, you need to install the device driver of CIF board. After the installation, you are required to register this provider registry. For information about registration, refer to Table 2-1.

2. Overview of provider

2.1. Overview

The following table shows necessary information for registration.

Table 2-1 CIF32 provider

File name	CaoProvCIF32.DLL
ProgID	CaoProv.hilscher.CIF32
Registry registration[1]	regsvr32 CaoProvCIF32.dll
Blotting out of registry registration	regsvr32 /u CaoProvCIF32.dll

[1] You can register the provider with regsvr32.exe or RegCOM.exe ([Start] -> [ORiN2] -> [Tools]). CIF32 provider cannot be registered unless the driver of CIF board has installed.

2.2. Method and Properties

2.2.1. CaoWorkspace::AddController method

CIF32 provider establishes communication with CIF board when a Controller object is created.

You can set options (board number, communication timeout, connection timeout, and reset timeout) by specifying option character strings.

```
AddController
(
"< controller name >"           // Controller name.
"CaoProv.hilscher.CIF32",       // Provider name. Fixed.
"< machine name >"              // Computer name where provider runs.
"< option >"                    // Option character string.
)
```

The following table lists the option character strings.

Table 2-2 Option character string of CaoWorkspace::AddController

Option	Description
Board =< Board number >	CIF board number of connection destination (default: 0)
Timeout =< Communication timeout >	Communication timeout (Default: 10)
ComTimeout =< Connected timeout >	Connected timeout (Default: 0)
ResetTimeout =< Reset timeout >	Reset timeout (Default: 10000)

2.2.2. CaoController::AddVariable method

This method generates a variable object that accesses CIF board.

For variable naming, only the variables described in 2.3.1 are available. This method returns an error if other variable names are used.

```
AddVariable
(
"< variable identifier >"       // Variable name.
"< option >"                    // Option character string.
)
```

You can specify the offset value and buffer size with the following option character strings.

Table 2-3 Option character string of CaoController::AddVariable

Option	Meaning
Offset =< Offset value >	Offset value of CIF board (Default: 0)

Size <= buffer size >	Buffer size for reading and writing (Default: 1)

2.2.3. CaoController::get_VariableNames property

Obtain variables described in 2.3.1.

2.2.4. CaoController::get_ID property

Obtain the currently connected CIF board number.

2.2.5. CaoVariable::get_Value property

Obtain information about a specified variable. For information about variables, please refer to 2.3.1.

2.2.6. CaoVariable::put_Value property

Set information about a specified variable. For information about variables, please refer to 2.3.1.

2.3. Variable list

2.3.1. Controller class

Table 2-4 Controller class user variable list

Variable name	Data type	Description	Attribute		Option	
			get	put	Offset	Size
MSG	VT_BSTR	Obtain and set messages.	√	√	-	-
IO?	VT_ARRAY | VT_UI1	Obtain and set the current value of I/O. For "?" in the end of variable name, you can specify the offset value. If Offset option is specified in 2.2.2, the value of Offset property precedes.	√	√	√	√
FIO?	VT_ARRAY | VT_UI1	Obtain and set the current value of I/O. For "?" in the end of variable name, you can specify the offset value. If Offset option is specified in 2.2.2, the value of Offset property precedes.	√	√	√	√
DPM	VT_ARRAY | VT_UI1	Obtain and set values from/to dual-port memory.	√	√	√	√

Table 2-5 Controller class system variable list

Variable identifier	Data type	Explanation	Attribute		Option	
			get	put	Offset	Size
@BOARD_INFO	VT_ARRAY | VT_VARIANT	Obtain CIF board information. Obtained data stores members of BOARD_INFO structure in order.	√	-	-	-
@DRIVER_INFO	VT_ARRAY | VT_VARIANT	Obtain driver information. Obtained data stores members of DRIVERINFO structure[2] in order.	√	-	-	-
@VERSION_INFO	VT_ARRAY | VT_VARIANT	Obtain version information. Obtained data stores members of VERSIONINFO structure[2] in order.	√	-	-	-

[2] Please refer to hilscher company Device Driver Manual for details of the structure.

@FIRMWARE_INFO	VT_ARRAY | VT_VARIANT	Obtain firmware information. Obtained data stores members of FIRMWAREINFO structure[2] in order.	√	-	-	-
@TASK_INFO?	VT_ARRAY | VT_VARIANT	Obtain Task information. Obtained data stores members of TASKINFO structure[2] in order. Enter a task number at the end of variable name.(where ? is written) (task number: 1-7)	√	-	-	-
@RCS_INFO	VT_ARRAY | VT_VARIANT	Obtain RCS information. Obtained data stores members of RCSINFO structure[2] in order.	√	-	-	-
@DEV_INFO	VT_ARRAY | VT_VARIANT	Obtain Device information Obtained data stores members of DEVINFO structure[2] in order.	√	-	-	-
@IO_INFO	VT_ARRAY | VT_VARIANT	Obtain I/O information. Obtained data stores members of IOINFO structure[2] in order.	√	-	-	-
@MBX_STATE	VT_ARRAY | VT_VARIANT	Obtain the state of the mailbox. Obtained data stores the state of the device mailbox and the state of the host mailbox in order.	√	-	-	-
@TASK_STATE?	VT_ARRAY | VT_UI1	Obtain the state of the task. Enter a task number at the end of variable name.(where ? is written) (task number: 1 to 2)	√	-	-	√
@TASK_PARAM?	VT_ARRAY | VT_ UI1	Obtain and set the task parameter. Enter a task number at the end of variable name.(where ? is written) (task number: 1 to 2)	√	√	-	√
@RESET	VT_UI2	Reset the CIF board.	-	√	-	-
@WATCHDOG	VT_ UI2	Read and write the Watchdog.	√	√	-	-

2.4. Error code

CIF provider has no original error code. For information about OCiN2 common errors, please refer to the chapter of the error code of "ORiN2 Programming guide".

3. Sample program

This sample accesses dual port memory with a "DPM" variable.

List 3-1 Sample.frm

```
Private caoEng As CaoEngine
Private caoCtrl As CaoController
Private caoVar As CaoVariable

Private Sub Form_Load()

 Set caoEng = New CaoEngine
 Set caoCtrl = caoEng.Workspaces(0).AddController("", "CaoProv.hilscher.CIF32", "", "")
 Set caoVar = caoCtrl.AddVariable("DPM", "Offset=0,Size=5")
End Sub


Private Sub CmdPut_Click()

 Dim data(4) As Byte
 data(0) = 0
 data(1) = 10
 data(2) = 20
 data(3) = 30
 data(4) = 40

 caoVar.Value = data

End Sub

Private Sub cmdGet_Click()

 Dim Ret As Variant

 Ret = caoVar.Value

 Text1.Text = CStr(Ret(0)) & " , " & _
 CStr(Ret(1)) & " , " & _
 CStr(Ret(2)) & " , " & _
 CStr(Ret(3)) & " , " & _
 CStr(Ret(4))

End Sub
```