Ping provider

Ping command (Raw socket)

Version 1.1.1

User's guide

November 1, 2018

[Remarks]

[Revision history]

Version	Date	Contents
1. 0. 0. 0	2006-02-24	First edition
1. 0. 1. 0	2007-04-12	Added @MAGIC_PACKET.
1. 1. 0. 0	2009-04-02	Added packet size specification option (SIZE)..
1. 1. 0. 1	2010-02-12	Added error codes.
1. 1. 0	2012-07-17	Change the version control rule for the document.
1. 1. 1	2018-11-01	Memory leak was corrected.

[Supported model]

Model	Version	Remarks

Contents

1. Introduction

This is a user's guide of Ping provider. Ping provider is CAO provider that executes Ping command for network computers.

This document describes functions and methods implemented in Ping command.

2. Overview of Ping provider

2.1. Overview

Ping provider sends a ping to the specified network computer to check if the target computer is connected to the network.

Ping provider creates a Ping command by using Raw socket [1][2]

Table 2-1 Ping provider

File name	CaoProvPing. dll
ProgID	CaoProv. Ping
Registration[3]	regsvr32 CaoProvPing. dll
Deregistration	regsvr32 /u CaoProvPing. dll

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[1] Based on KB195445 (Microsoft Knowledge Base ID 195445), Ping provider is not available to users who are non-administrators. For non-administrators, use ICMP provider instead.
[2] Communication may not be available depending on the firewall settings.
[3] You do not need to register/delete the registry manually when it has been installed by ORiN SDK.

2.2. Method and Property

2.2.1. CaoWorkspace::AddController method

At the timing of AddController (when creating an Controller object), Ping provider specifies an IP address of the sending destination of a Ping command and the response wait timeout.

```
AddController
(
    "<Controller name>",  // Controller name
    "CaoProv. Ping",      // Provider name (fixed)
    "<Computer name>",    // Computer name where provider runs
    "<Option>"            // Option character string
)
```

The following table shows the list of option strings

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

Option	Description
Host=<Host name or IP address>	[Required] Specify a host that sends a ping by either a host name or an IP address.
Timeout[=<Response wait timeout>]	Specify the response wait timeout for Ping command by milliseconds. Valid range: 1 to 60000 (default: 1000)
Size[=<Packet size>]	Specify a packet size by byte-unit Valid range: 0 to 65500 (default: 32)

2.2.2. CaoController::AddVariable

Create a CaoVariable object (hereafter, "variable"). For available variable names, refer to Table 2-3 Controller class User variable list. If variable name not listed in Table 2-3 is used, an error will be returned.

```
AddVariable
(
    "<Variable name>",        // Variable name
    "<Option>"            // Option character string (unused)
)
```

2.2.3. CaoVariable::put_Value property

This put_Value property can be executed for variables whose "Put" column on Table 2-3 is checked.

2.2.4. CaoVariable::get_Value property

This property can be executed only for variables whose "get" column on Table 2-3 is checked.

2.3. Variable list

2.3.1. Controller class

Table 2-3　Controller class User variable list

Variable name	Data type	Description	Attribute get	Attribute put
@ERROR_CODE	VT_I4	Send a Ping to a predetermined host and then receive the result. For about the result value, refer to "Table 2-4 Values of @ERROR_CODE".	✓	-
@STRESS	VT_I4	Send predetermined numbers of Ping to the predetermined host at the execution of Put. When Get is executed, this variable executes Put at the end in order to obtain the specified number of Ping.	✓	✓
@MAGIC_PACKET	VT_BSTR	Send a magic packet-embedded Ping in order to turn on a WOL (Wake On LAN)-compatible device. Specify MAC address of device that uses WOL.	-	✓

Table 2-4 Values of @ERROR_CODE

Return value	Description
0	End normally
10004	Function call was interrupted.
10013	Access denied.
10014	Incorrect address.
10022	Invalid argument.
10035	Processes will be blocked.
10036	Blocking process has been running.
10038	Specified socket is invalid.
10039	Reception address is required.
10040	Message is too long.
10045	Unsupported operation.
10047	Address family is not supported by protocol family.
10049	Invalid address
10050	Network is down.
10051	Cannot reach the network.

10052	Network connection was cancelled.
10053	Connection was interrupted by software.
10054	Connection was reset by the recipient.
10055	There is no empty buffer.
10056	Socket has already been connected.
10057	Socket is not connected.
10058	Communication is not available after the socket shutdown.
10060	Connection timeout.
10065	There is no route to the host
10093	WSAStartup() is not executed normally.

2.4. Error code

Ping provider defines the following original error codes. For ORiN2 common errors, refer to ORiN2 programming guide".

Table 2-5 Original error code list

Error name	Error number	Description
E_ICMP_TOO_FEW_BYTES	0x80100800	Received packet is too short
E_ICMP_TOO_MANY_BYTES	0x80100801	Received packet is too large.
E_ICMP_NOT_ECHO	0x80100802	Not a reply packet
E_ICMP_BAD_ID	0x80100803	Message arrived from unexpected source

3. Sample program

The following is the sample program to send Ping to "SampleServer" server.

List 3-1	Sample. frm

```
Private eng As CaoEngine
Private ctrl As CaoController
Private var As CaoVariable

Private Sub Form_Load()
    Set eng = New CaoEngine

    ' Connect to PHC
    Set ctrl = eng. Workspaces(0). AddController("Sample", _
                                     "CaoProv. Ping", _
                                     "", _
                                     "Host=SampleServer")
    Set var = ctrl. AddVariable("@ERROR_CODE")

End Sub

Private Sub Command1_Click()

    ' Send a Ping
    Text1. Text = var

End Sub
```