Chapter 3

Data Sharing Between Devices

Table of contents

解説

Communication image between devices

Feature

The communication between devices means participating node exchanges the data. Each participating node can distribute the data to specified node according to the trigger conditions, and the data of the specified node can be collected.
For that purpose, data of "Feature" will be transferred and the trigger conditions will be set.

≪The example for the action of the communication between devices≫

AGP1 observes the changes in bit of A company's PLC and data of A company's PLC will be distributed.

AGP1   AGP2

BIT
ON

PLC of Company A   PLC of Company B

D100   D100
~   ~
D104   D104
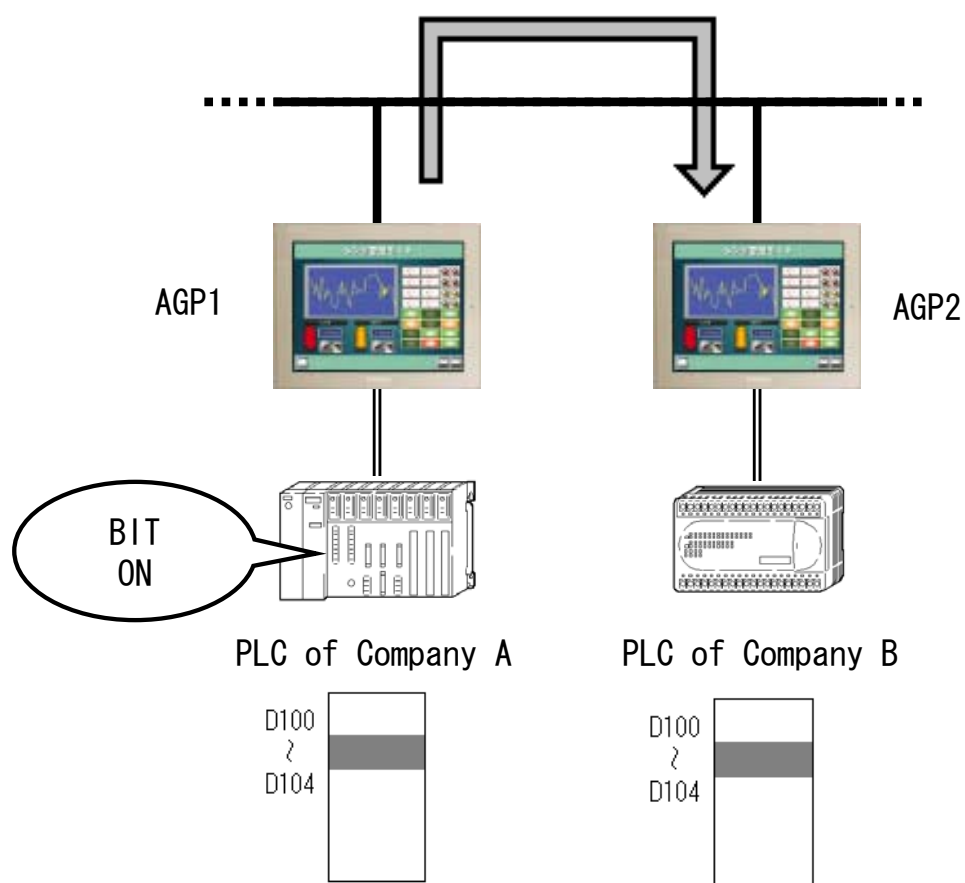
Note

At the time of development, use the Pro-Studio Ex and create the network project file.It should be transferred to participating node.

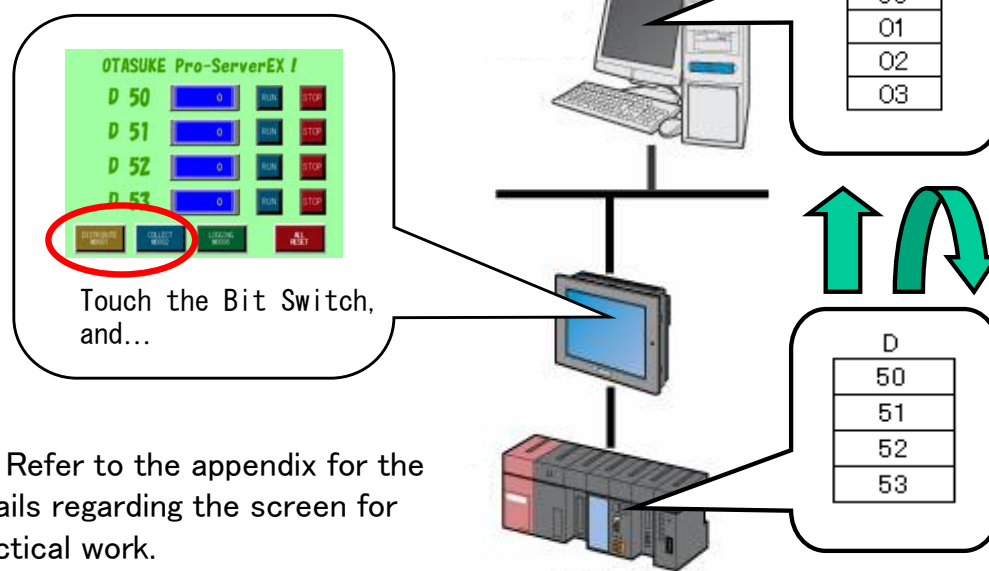In addition,when GP exchanges the data, PC should be developed but other than it, you may remove the PC from network.

Practical work for data transfer

≪Action outline for practical work≫

AGP distributes the data to the symbol of a personal computer.

Moreover, AGP collects the personal computers symbol data.

Touch the Bit Switch, and...

※ Refer to the appendix for the details regarding the screen for practical work.

≪Setup steps≫

① Activate Pro-Studio EX and create network project file（NPX）.

② Register the participating node. （Registered in Chapter 1 ）

③ Register the symbol of the device address to be used.
   （Add the LS area of PC to the symbol which is registered in Chapter 1.）

④ Set the features（ trigger condition and data transfer）.
   ・Set the trigger conditions.
   ・Set data transfer and it will relate with trigger conditions.

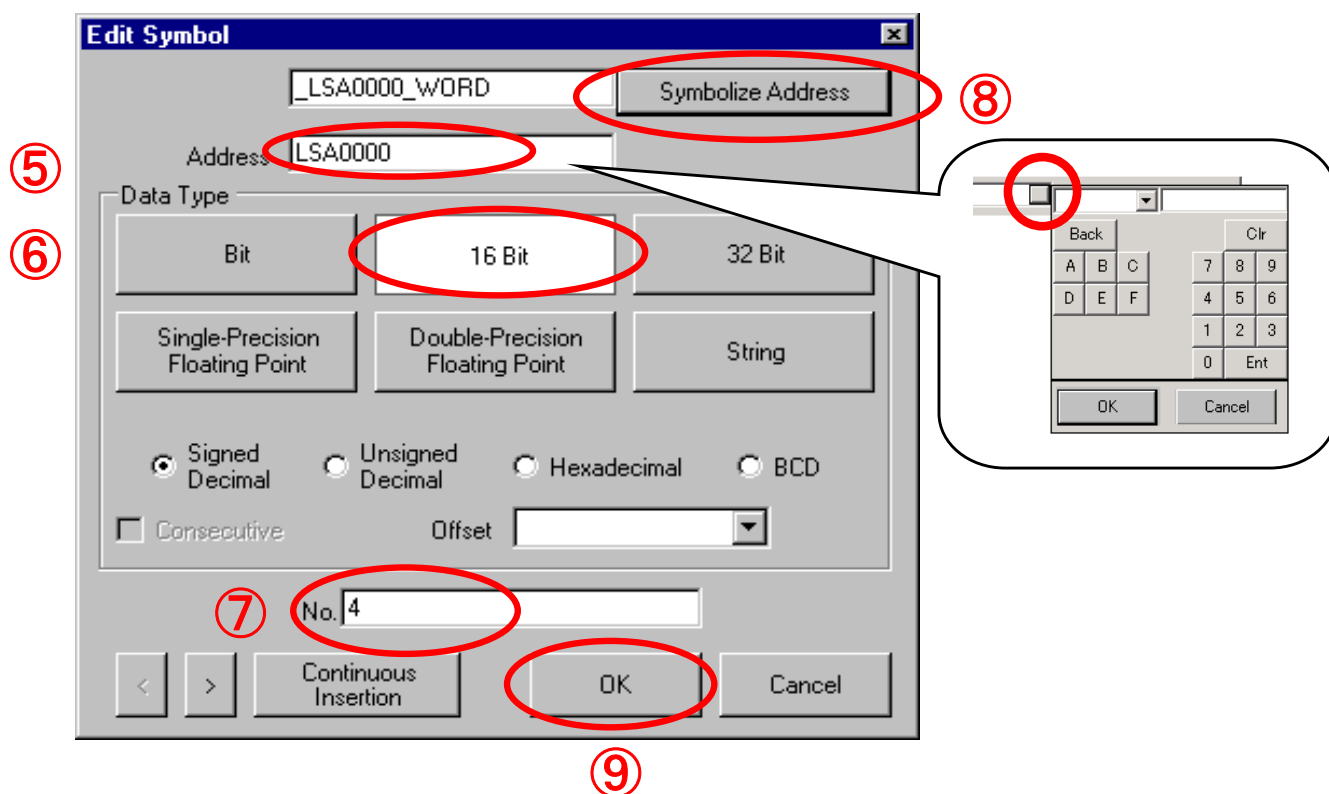⑤ Save/reload NPX and transfer it.

⑥ Confirm the action.
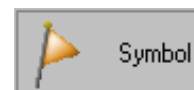
→ In practical work from the next page, perform it after "Symbol registration" work of above mentioned step③.

（1） Register the symbol in LS area in personal computer.

① Click [Symbol] of status bar.

② Select "#INTERNAL(SHEET1)" of "WindowsPC"

③ Symbol sheet will get opened in right hand side.

④ Double click the cell of the "Symbol" column of the top gray line.

⑤ Enter device address to be symbolized. 〔LSA0〕
　　Click the input column, if right edge button is clicked, address can be
　　entered by clicking the mouse from keyboard of right figure.

⑥ Select〔16 bit〕in data type.
⑦ Set the number to〔4〕.
⑧ Click "Symbolize address".
⑨ Click〔OK〕.

Symbol	Data Type	Consecutive	Device Address	No. of Data	Comment
_LSA0000_WORD	16Bit(Signed)		LSA0000	4	

⑩ As mentioned above, the symbol of LS area in a personal
　　computer can be set.

（2） Trigger condition（Touch switch 1 ）is created.

① Click [Feature] on status bar.

② Select [Trigger condition].

③ Click [Addition].
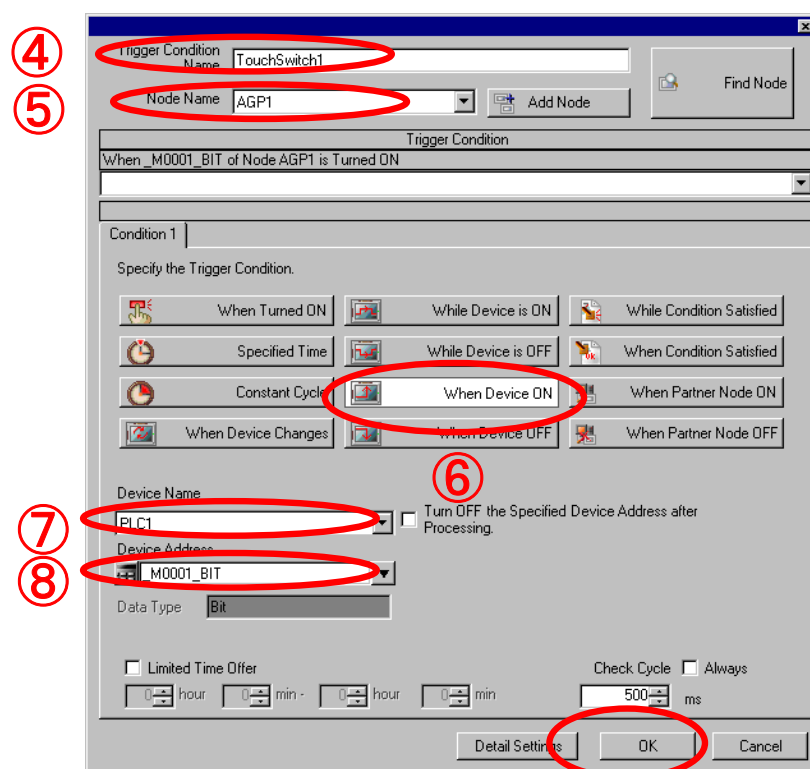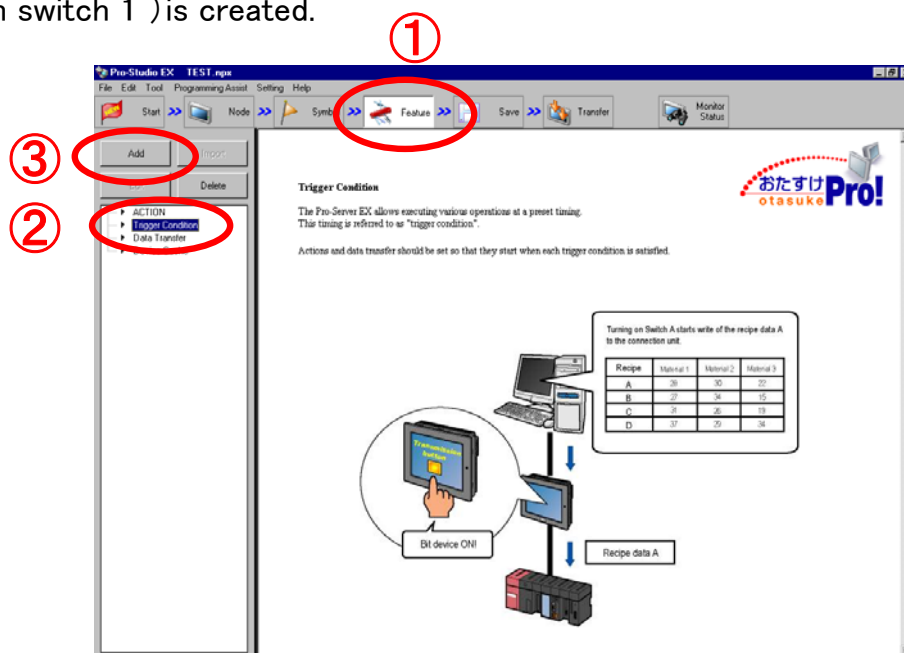
④ Trigger condition name : Touch switch 1
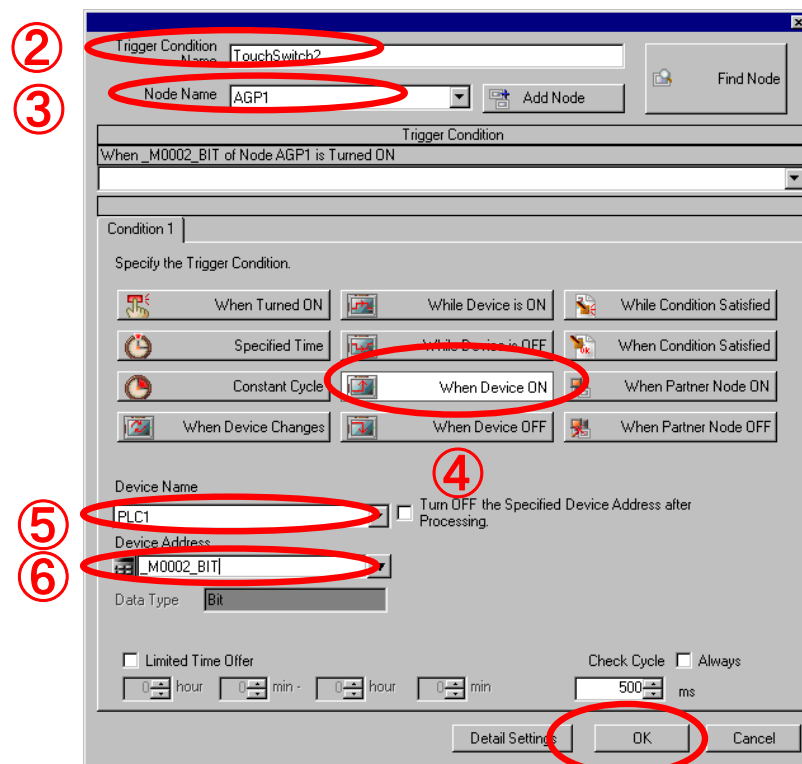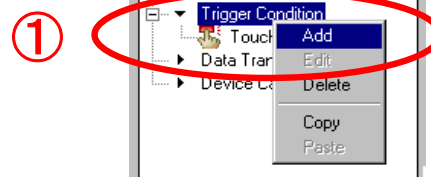
⑤ Node name：AGP1

⑥ Condition： When device is ON

⑦ Device name：PLC1

⑧ Device address：_M0001_BIT

⑨Keep other settings as it is and click [OK] button.

（3） Trigger conditions（Touch switch 2）are created.

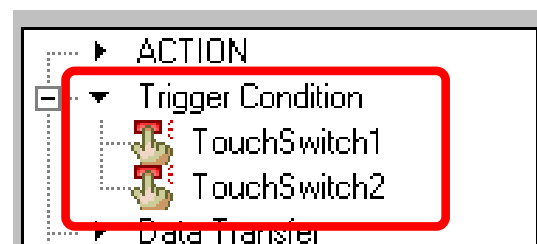① Then, the right click the [Trigger conditions] and click [Addition].

② Trigger condition name: Touch switch 2

③ Node name: AGP1

④ Condition: When device is ON

⑤ Device name : PLC1

⑥ Device address: _M0002_BIT

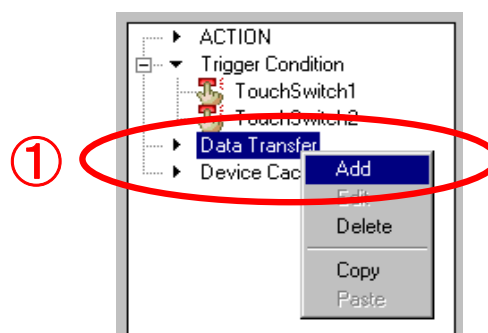⑦ Keep other settings as it is and click [OK] button.

⑧ As shown in the right figure, two trigger conditions are created.

(4) Data transmission is set up (Distribute type).

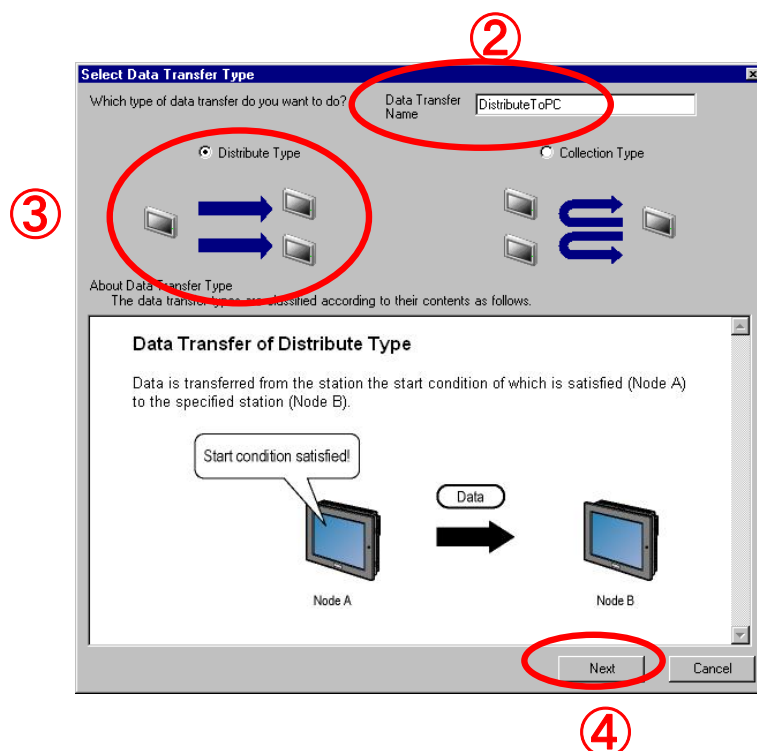① Right click [Data transfer] and then click [Addition].

①

② [Select data transfer type] will get open.

Enter the data transfer name as "Distribution to PC".
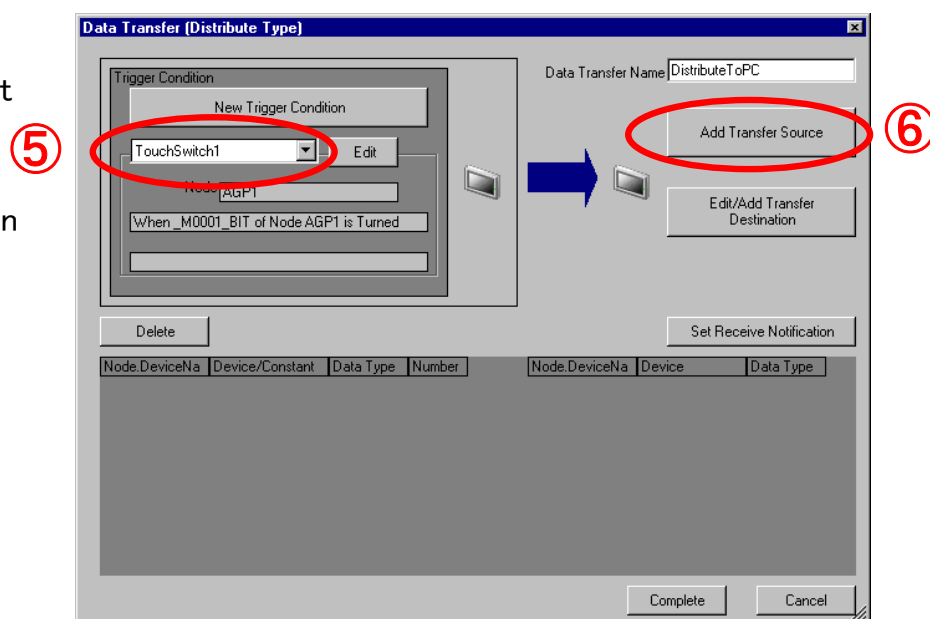
③ Check the "Distribute type".
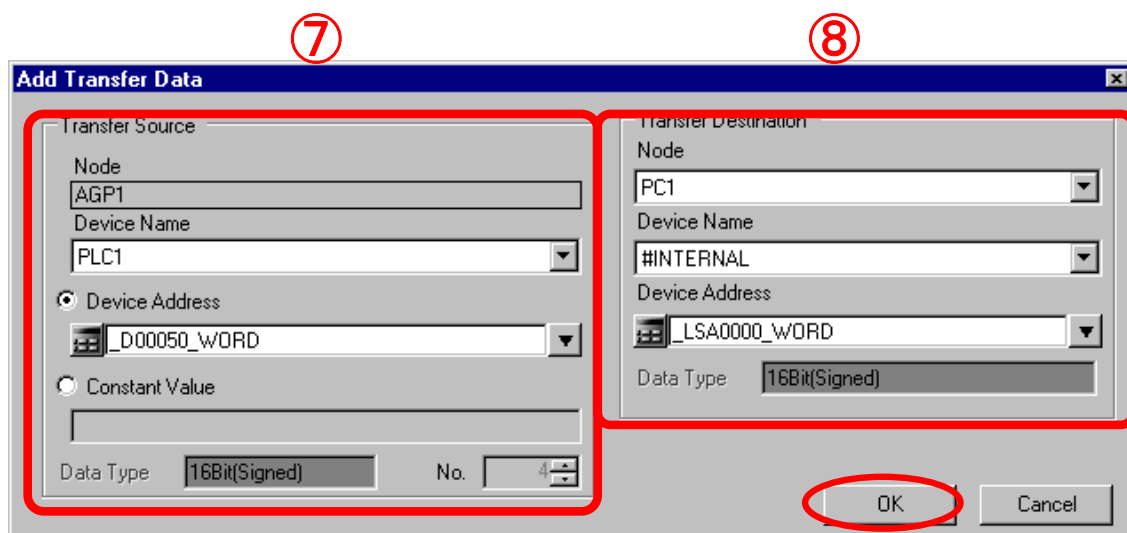
④ Click [Next] button.

⑤ Data transfer (Distribute type)will get open.

Select "Touch switch1" in input column of trigger conditions.

⑥ Click the [Add transfer source].

⑦   ⑧

⑨

⑦ Transfer source
    Participating node:AGP1（fixed）
    Device name:PLC1
    Click device address,
      Symbol: _D00050_WORD
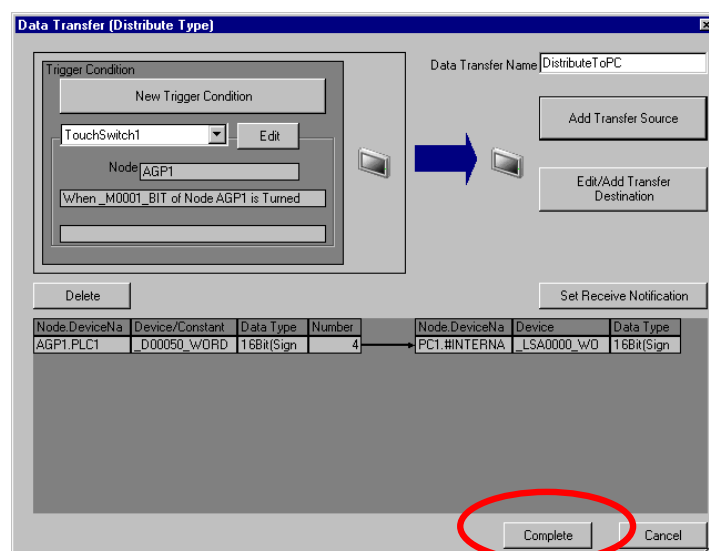
⑧ Transfer destination
    Node name：PC1
    Device name：#INTERNAL
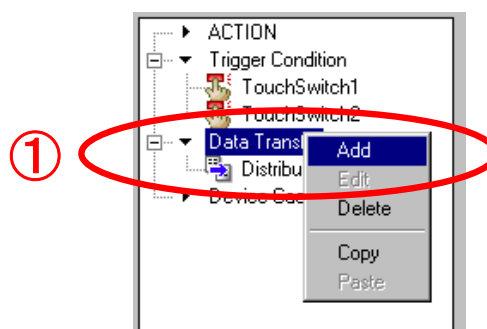   Device address
      Symbol: _LSA0000_WORD

⑨ Click [OK].

⑩ Click [Complete] button.
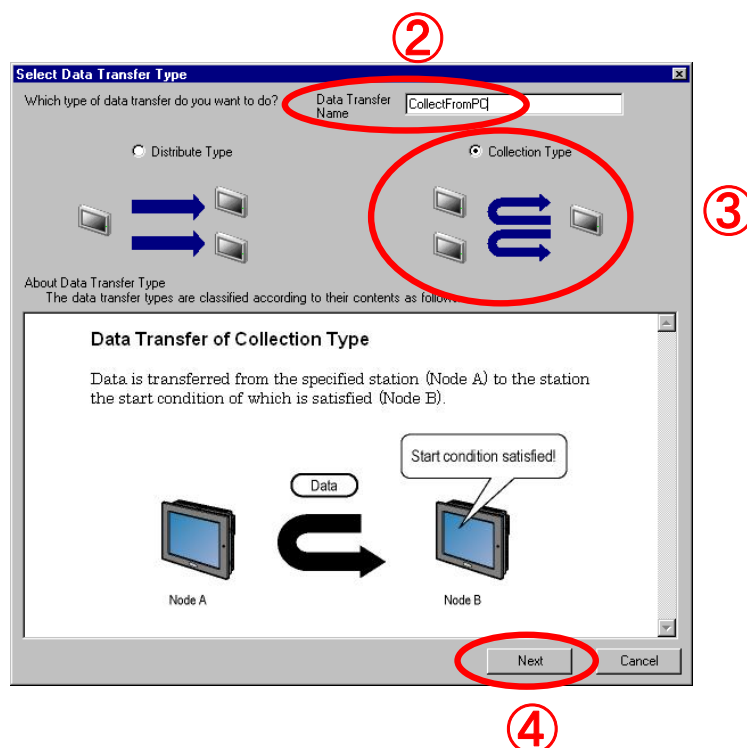

⑩

(5) Data transfer is set up(Collection type).

① Right click the [Data transfer] and again click the [Add].

② [Select data transfer type] will get open.

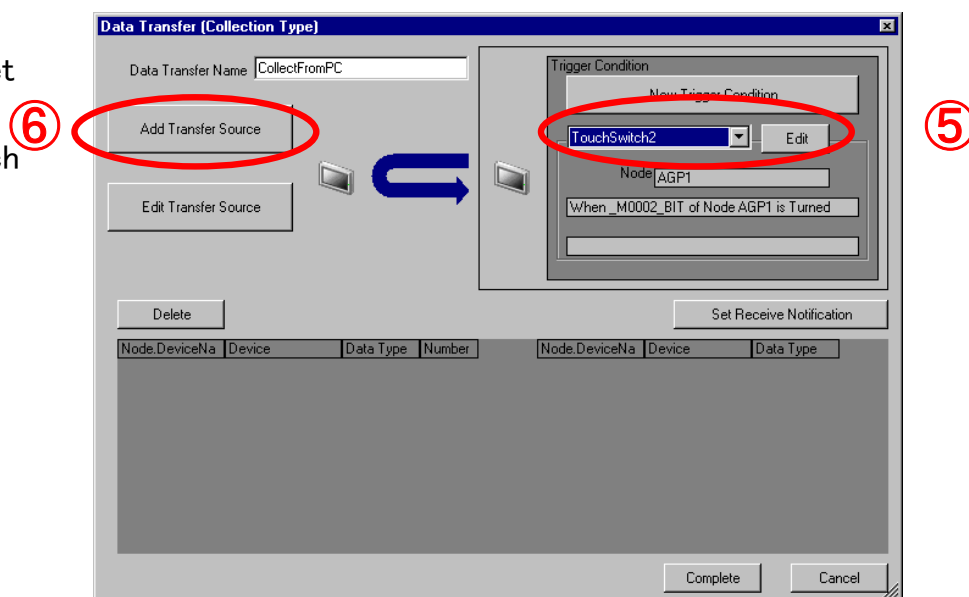　Enter the data transfer name as "Collection from PC".
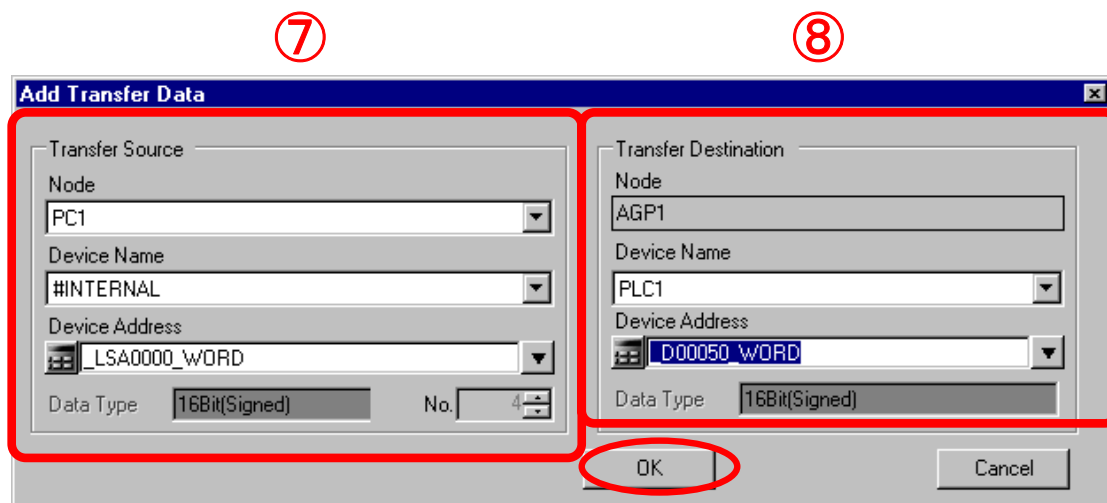
③ Check the "Collection type".

④ Click the [Next] button.

⑤ Data transfer (Collection type)will get open.

　Select "Touch switch 2" in input column of trigger condition.
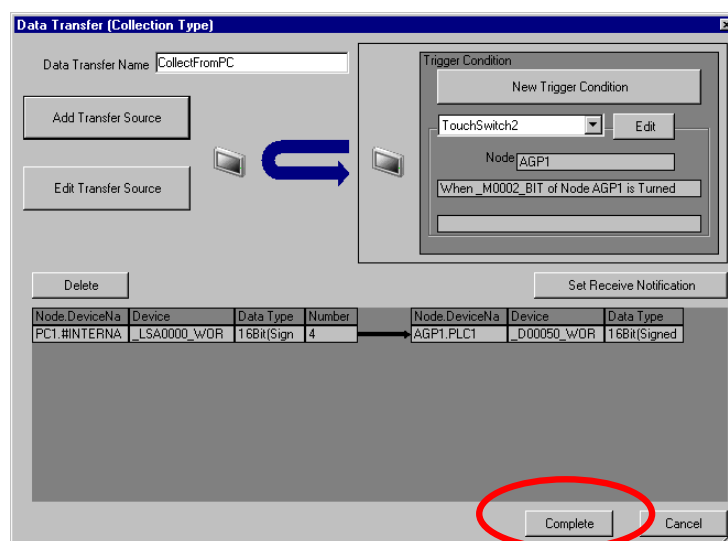
⑥ Click [Add transfer source].

⑦　⑧

⑨

⑦　Transfer source
　Participating node: PC1
　Device name: #INTERNAL
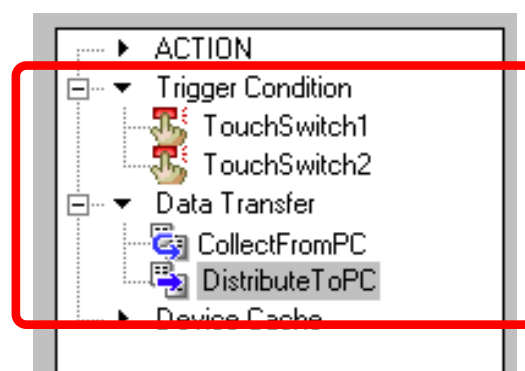　Device address
　　Symbol : _LSA0000_WORD

⑧　Transfer destination
　Participating node:AGP1（fixed）
　Device name :PLC1
　Device address
　　Symbol :_D00050_WORD

⑨　Click [OK] button.

⑩　Click the
[Complete] button.

⑩

As shown in the right figure, two
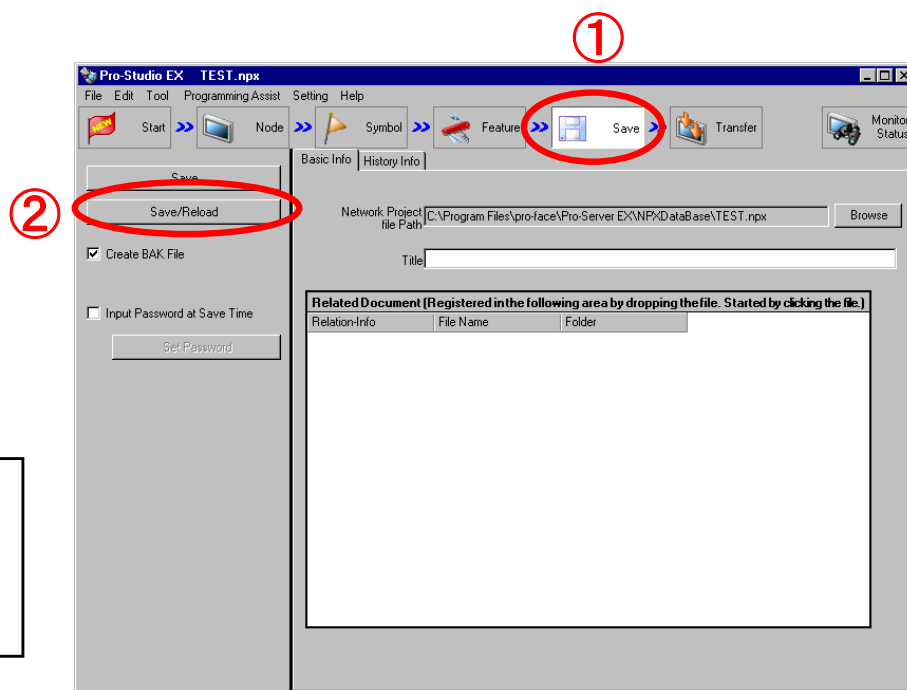trigger conditions and two data
collections are created.

－ 3-11 －

（6） Save/reload the NPX and transfer it to AGP.

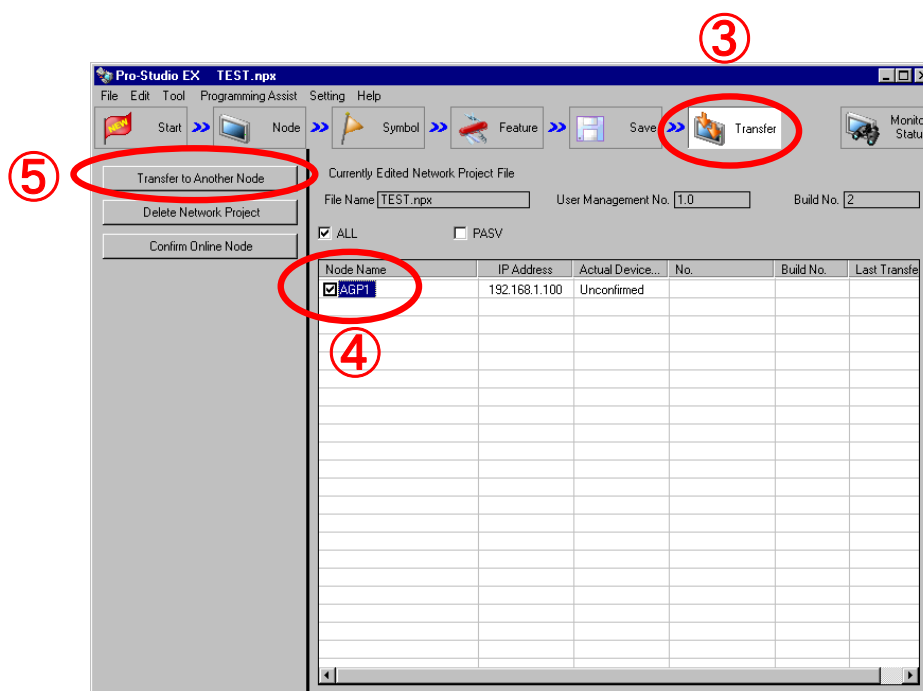① Click [Save] on status bar.

② Click [Save/reload].

When it is not yet saved, save 2 – 4 pages for reference.
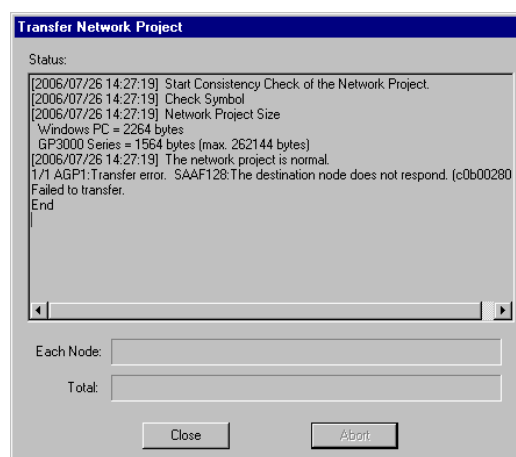
③ Click [Transfer] on status bar.

④ Select participating node of transfer destination.
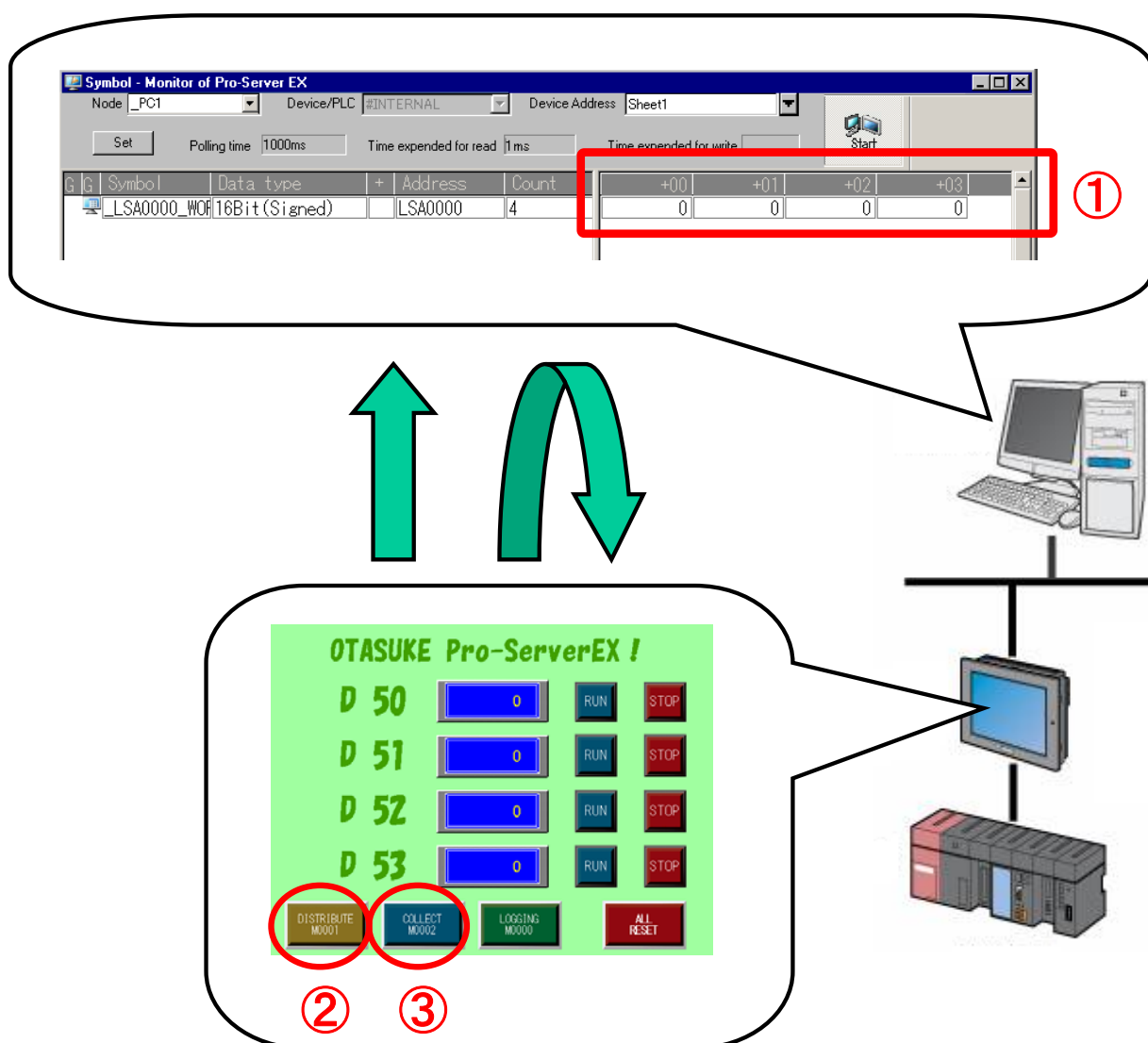
⑤ Click [Transfer to another node].

A message as shown in right side is displayed, and if there is no problem/issue in an error check, transfer will get terminate normally.

The transmission to the personal computer itself is unnecessary.

≪Action confirmation≫

① Symbol monitor of 4 words will be performed from LSA0000 of personal computer.
(Refer to the chapter 2 Status observation for the method)

② If "Distribute" switch on GP screen is pressed, 4 words data from D50 of PLC1 is distributed to 4 words from LSA0000 of a personal computer words.

③ If "Collection" switch on GP screen is pressed,4 words data from LSA0000 of PC will be gathered to 4 words from D50 of PLC 1.

When communication does not work, refer to the "communication setup of a personal computer and the check method" of introductory chapter and check the setup.