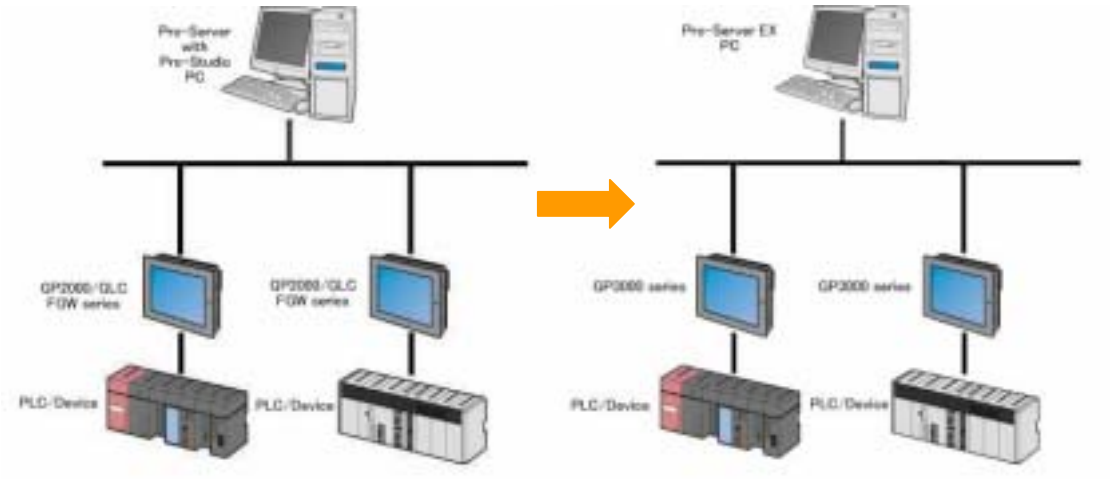
Pro-Server EX Compatibility 2

Cautions and compatibility in case you replace from GP2000/77R Series, GLC Series or Factory Gateway (referred to as FGW) to GP3000 Series and use it on Pro-Server EX are introduced here.

Chapter 2 Replacing GP Unit from GP2000/77R/GLC/FGW Series to GP3000 Series and using it on Pro-Server EX



■Chapter 2. Table of Contents ■

2.1 Network project file

A network project file created via Pro-Server with Pro-Studio cannot be used on Pro-Server EX as it is because its file format is different. It is necessary to convert it to a file format of Pro-Server EX.

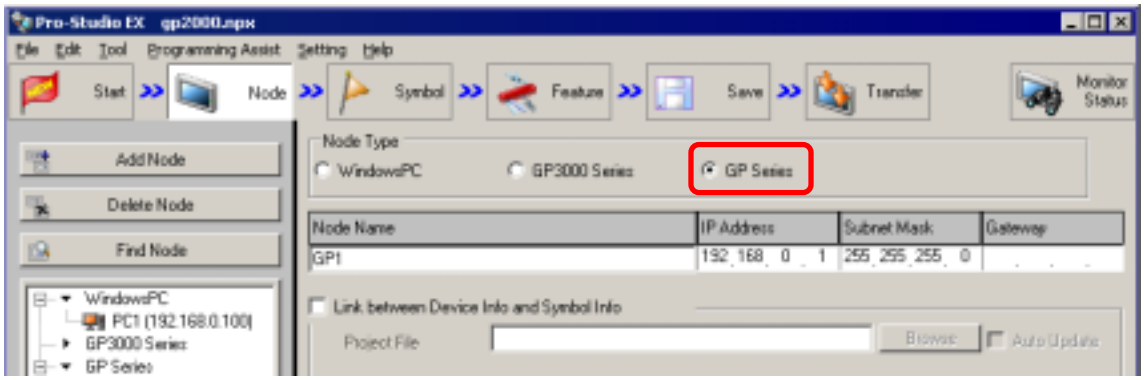
When you open a network project file that was created via Pro-Server with Pro-Studio, on Pro-Server EX, the converter will be automatically activated and change the file format. Even in this case, the network project file (*.npj) will not be deleted, and a new file whose extension is *.npx will be created.

File extension	Created software
.npj	Network project file for Pro-Server with Pro-Studio
.npx	Network project file for Pro-Server EX

A network project file (*.npx) for Pro-Server EX cannot be used on Pro-Server Ver. 4.X. The file format cannot be converted from *.npx to *.npj.

2.2 Changing a node on Pro-Server EX from GP2000/77R/GLC/FGW series to GP3000 series

When a network project file for Pro-Server with Pro-Studio is converted via Pro-Server EX, [Node Type] is converted as [GP Series]. This means it is converted as GP2000/77R/GLC/FGW Series.



When changing [Node Type] from [GP Series] to [GP3000 Series], please note that some features need to be setup again via Pro-Server EX.

	Transferable to Pro-Server EX	Requires re-entry via Pro-Server EX
Node Setting (Device/PLC Setting)		✔
Symbol	Transferable to GP3000 by copy & paste (Some parts require re-entry)	
Distribution (Data Transfer)		✔
Action	✔ (Some parts require re-entry)	
DDE	✔	
Simple DLL Function	✔	

* Please refer to “2.3 Cautions for replacing the GP unit from GP2000/77R/GLC/FGW series to GP3000 series” for other features.

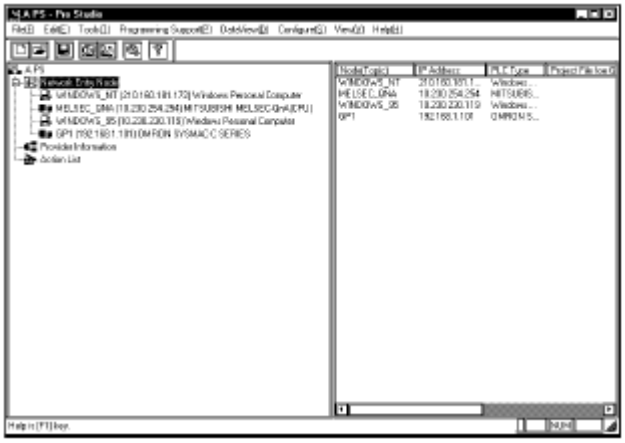
■ Transfer Flow

Procedure	Reference
1. Write down the necessary items before uninstalling Pro-Server with Pro-Studio.	Procedure 1 - 2
2. Open a network project file (*.npj), which has been created via Pro-Server with Pro-Studio, on Pro-Server EX.	Procedure 3 - 6
3. Register GP3000 series for the node.	Procedure 7 - 8
4. Copy the symbols in the node created in Procedure 3.	Procedure 9 - 15
5. Re-enter the distribution (data transfer) setting.	Procedure 16 - 22
6. Re-enter the IP addresses and node names of registered nodes in Procedure 3.	Procedure 23 - 24
7. Confirm the Action setting.	Procedure 25

Details of the transfer process are introduced below.

Prepare before uninstalling Pro-Server with Pro-Studio

1. Start Pro-Server with Pro-Studio and open the network project file (*.npj). Confirm the PLC type and IP address registered in each node, and write them down.



Important
Pro-Server with Pro-Studio and Pro-Server EX cannot be installed on the same PC.

2. Please confirm if Pro-Server EX supports the PLC type which you have written down by referring to Pro-Server EX Reference Manual.

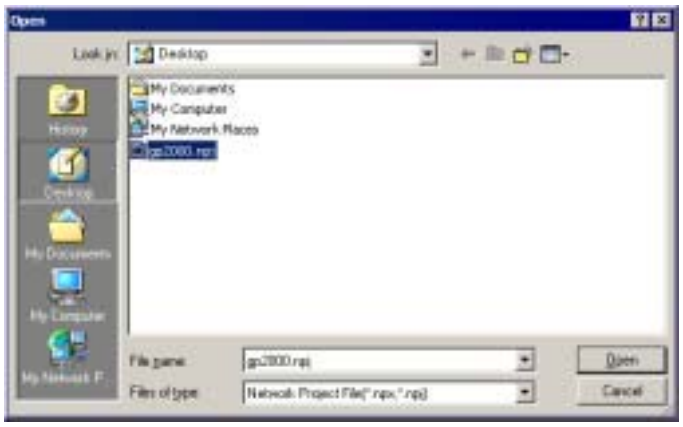
Important

- The device/PLC drivers, which are supported by Pro-Server EX, are the same as ones which are supported by GP-Pro EX.
- When using Pro-Server EX with GP2000/77R/GLC/FGW Series, the following Special Protocols of Pro-Server with Pro-Studio are not supported.

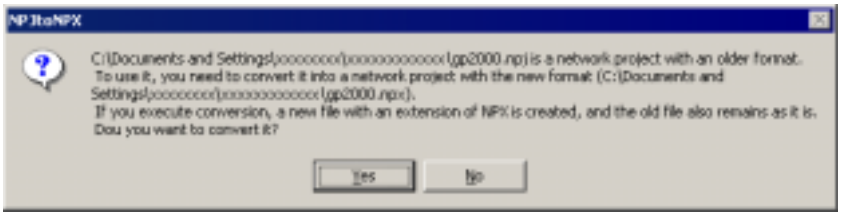
MITSUBISHI MELSEC NET/10	Allen Bradley SLC5/05 (ETHER)
OMRON CS1（ETHER）	Allen Bradley SLC500 DH485
HITACHI Industrial Equipment System Co. HIDEC H（ETHER）	Allen Bradley PLC5 Data High way Plus
SIEMENS S7-200 via MPI	Allen Bradley Remote I/O
MODICON MODBUS Plus	

Open a net work project file for Pro-Server with Pro-Studio on Pro-Server EX

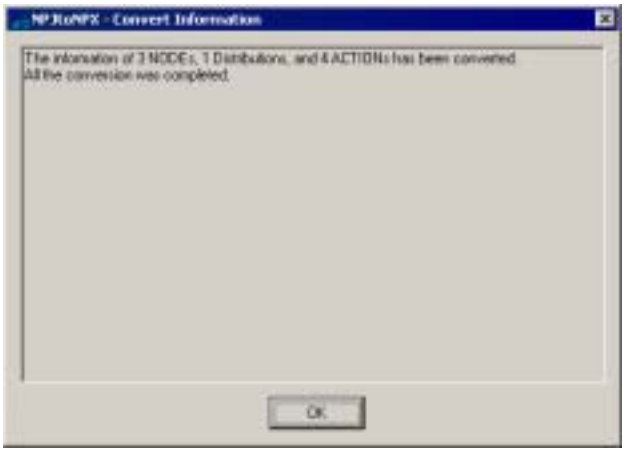
3. Start Pro-Server EX and open a network project File (*.npj) for Pro-Server with Pro-Studio.



4. When the network project file (*.npj) for Pro-Server with Pro-Studio opens, the following message appears. Click [Yes].



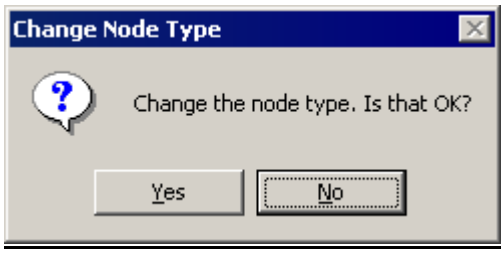
5. The network project file (*.npj) for Pro-Server with Pro-Studio is automatically converted into the network project file (*.npx) for Pro-Server EX. The convert information appears.



6. When selecting the converted node, its node type is shown as [GP Series], which means GP2000/77R/GLC/FGW Series.

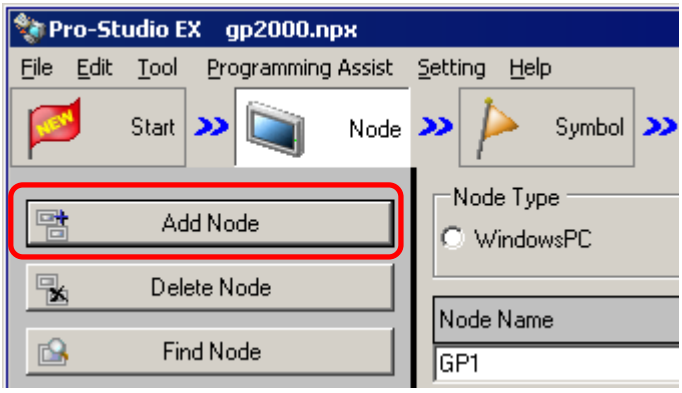
Important

If you change the node type from [GP Series] to [GP 3000 Series], information such as device/PLC information and or symbol information will be deleted. Do not change the node type from [GP Series] to [GP 3000 Series] at this moment.

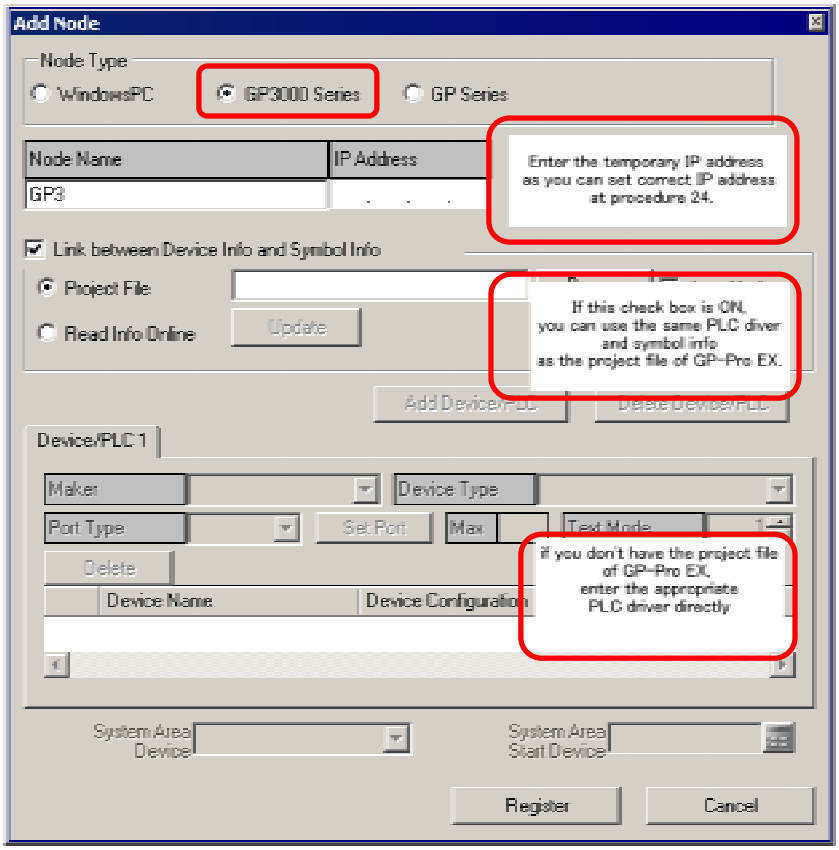


Add GP3000 series in the node

7. Click the [Add Node] button on Pro-Server EX.



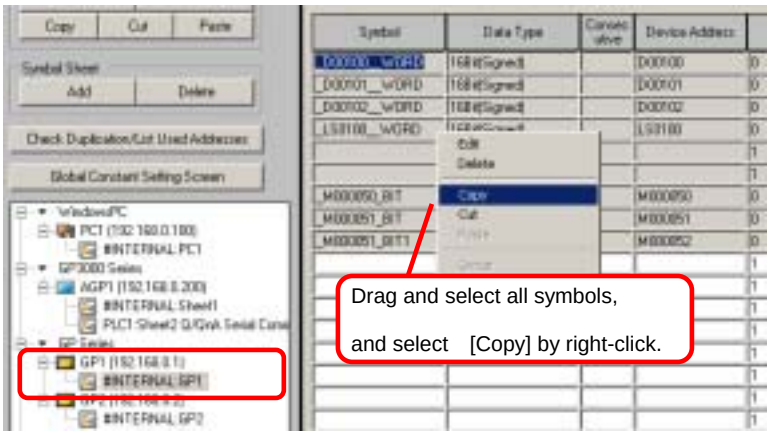
8. The [Add Node] dialog box appears, and then add [GP3000 series].
Setup other parts if needed.



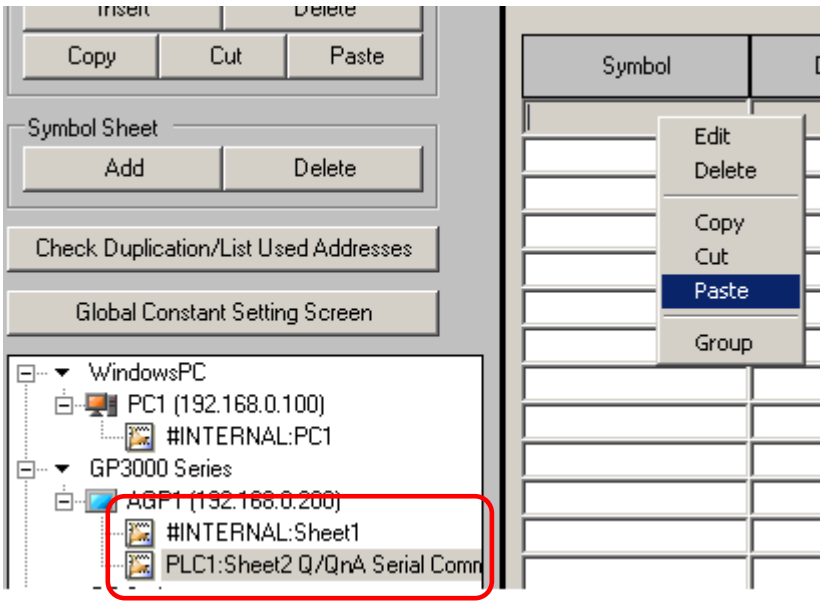
Copy the symbols in the added node

9. After adding GP3000 series in the node, click [Symbol] on the menu bar.

10. Click the node of [GP Series]. Drag and select all the symbols shown, and select [Copy] by right-click.



11. Select [PLC1:Sheet XX (Device/PLC driver name which has been setup)] of [GP3000 Series] added in Procedure 8. Right-click the first cell of the symbol screen, and select [Paste].



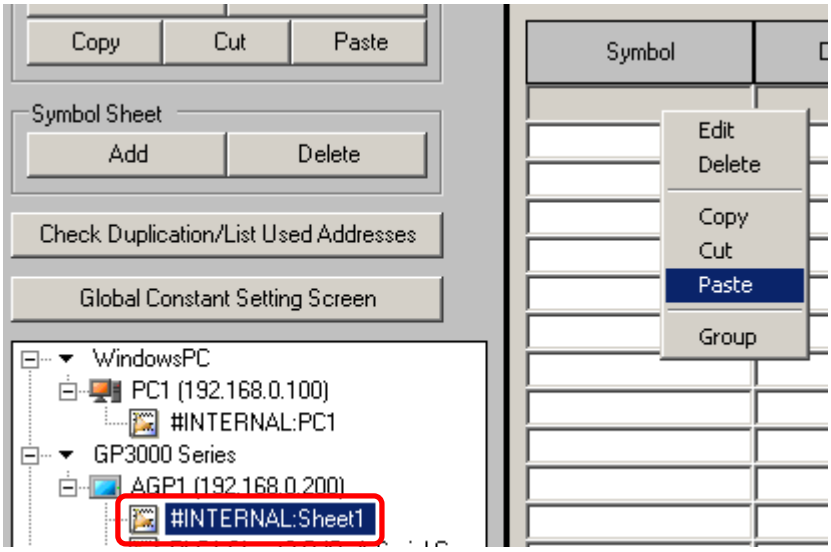
12. The symbols are pasted there.
    However, symbols of LS area are displayed in red, if any are used.
    (See Procedure 13 to move the symbols of LS area.)

Symbol	Data Type	Consec utive	Device Address	
_D00100__WORD	16Bit(Signed)		D00100	1
_D00101__WORD	16Bit(Signed)		D00101	1
_D00102__WORD	16Bit(Signed)		D00102	1
_LS0100__WORD	16Bit(Signed)		LS0100	1
				1
				1
_M000050_BIT	Bit		M000050	1
_M000051_BIT	Bit		M000051	1
_M000051_BIT1	Bit		M000052	1

13. Select a symbol of LS area displayed in red.
    Right-click it and select [Cut].

Symbol	Data Type	Consec utive	Device Address
_D00100__WORD	16Bit(Signed)		D00100
_D00101__WORD	16Bit(Signed)		D00101
_D00102__WORD	16Bit(Signed)		D00102
_LS0100__WORD	16Bit(Signed)		LS0100
_M000050_BIT			M000050
_M000051_BIT			M000051
_M000051_BIT1			M000052

14. Select [#INTERNAL:Sheet XX], and right-click the first cell of the shown symbol screen. Then, select [Paste].

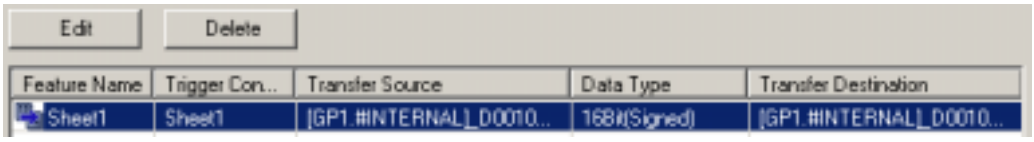


15. If multiple nodes are registered as [GP Series] in Procedure 6, repeat the procedures from 7 through 14.

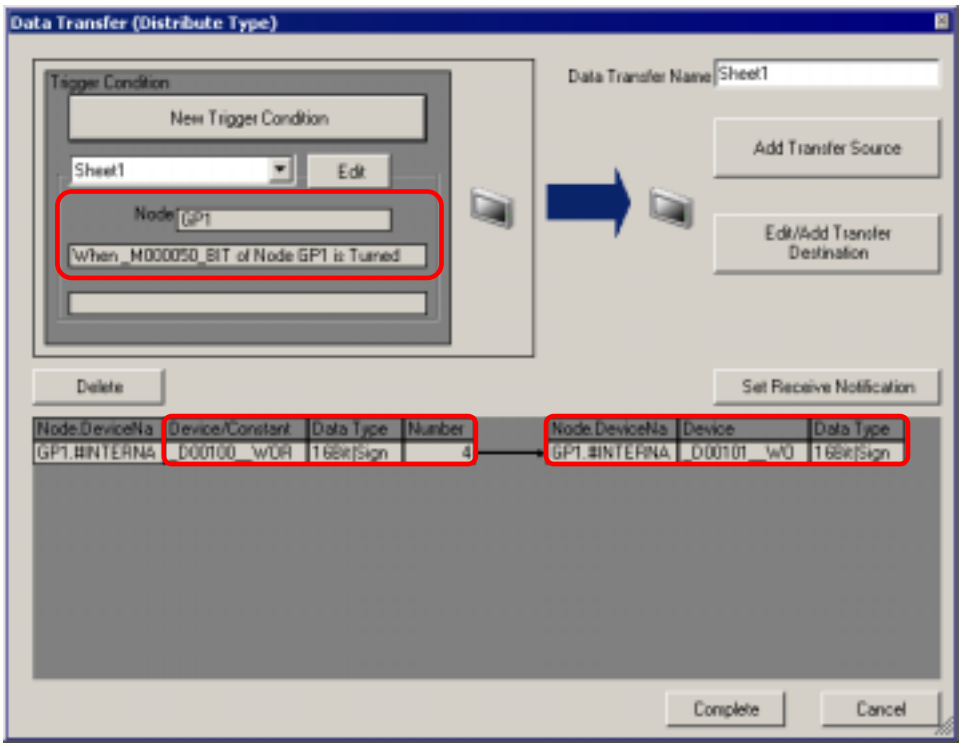
Re-enter the distribution (data transfer) settin

16. To input the distribution (data transfer) settings again, click 

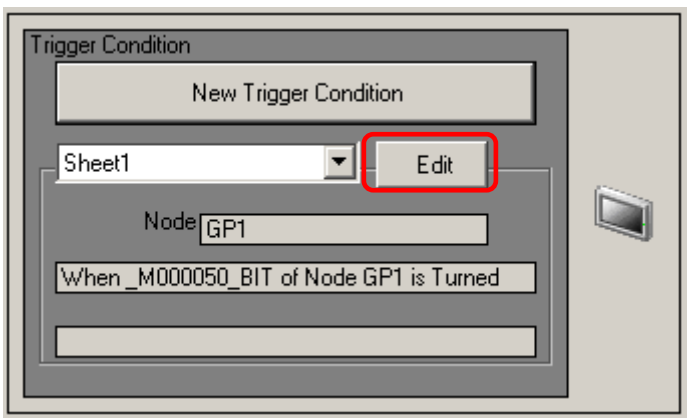
and [Edit] the registered distribution.



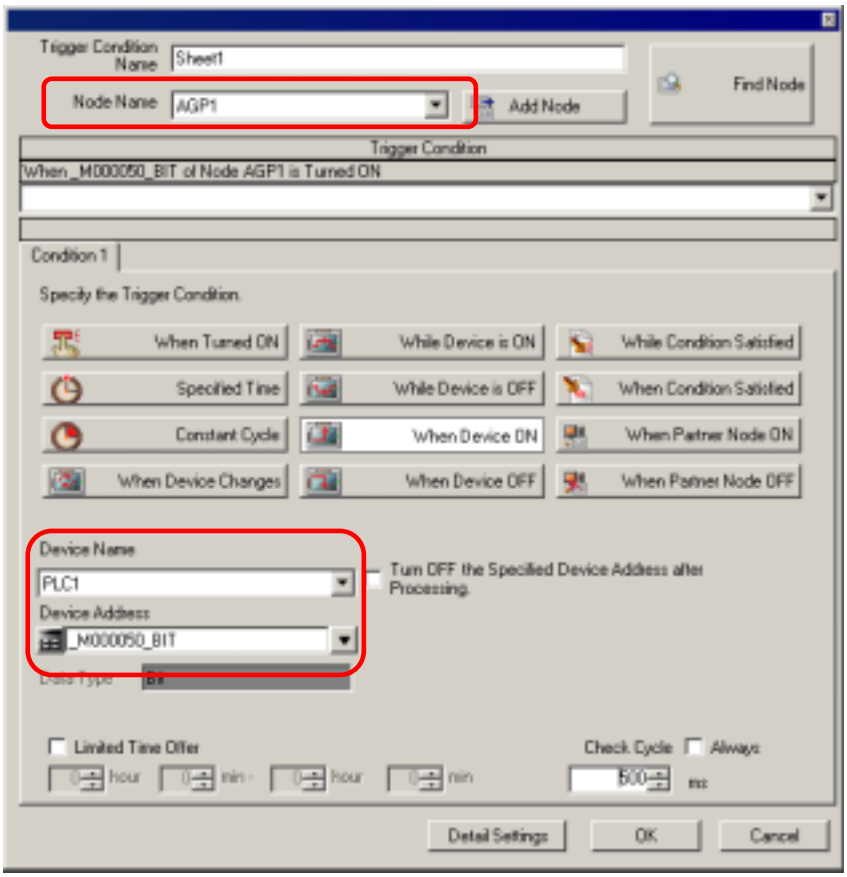
17. Since the following items require settings again, write down each item.



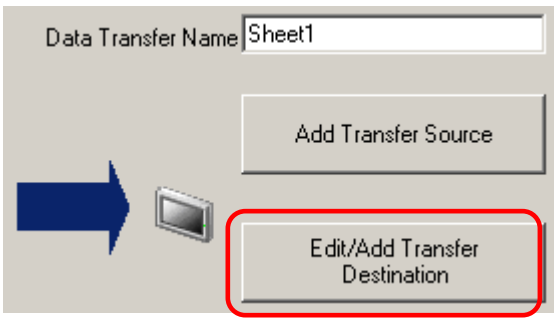
18. At first, click [Edit] to reset the trigger conditions.



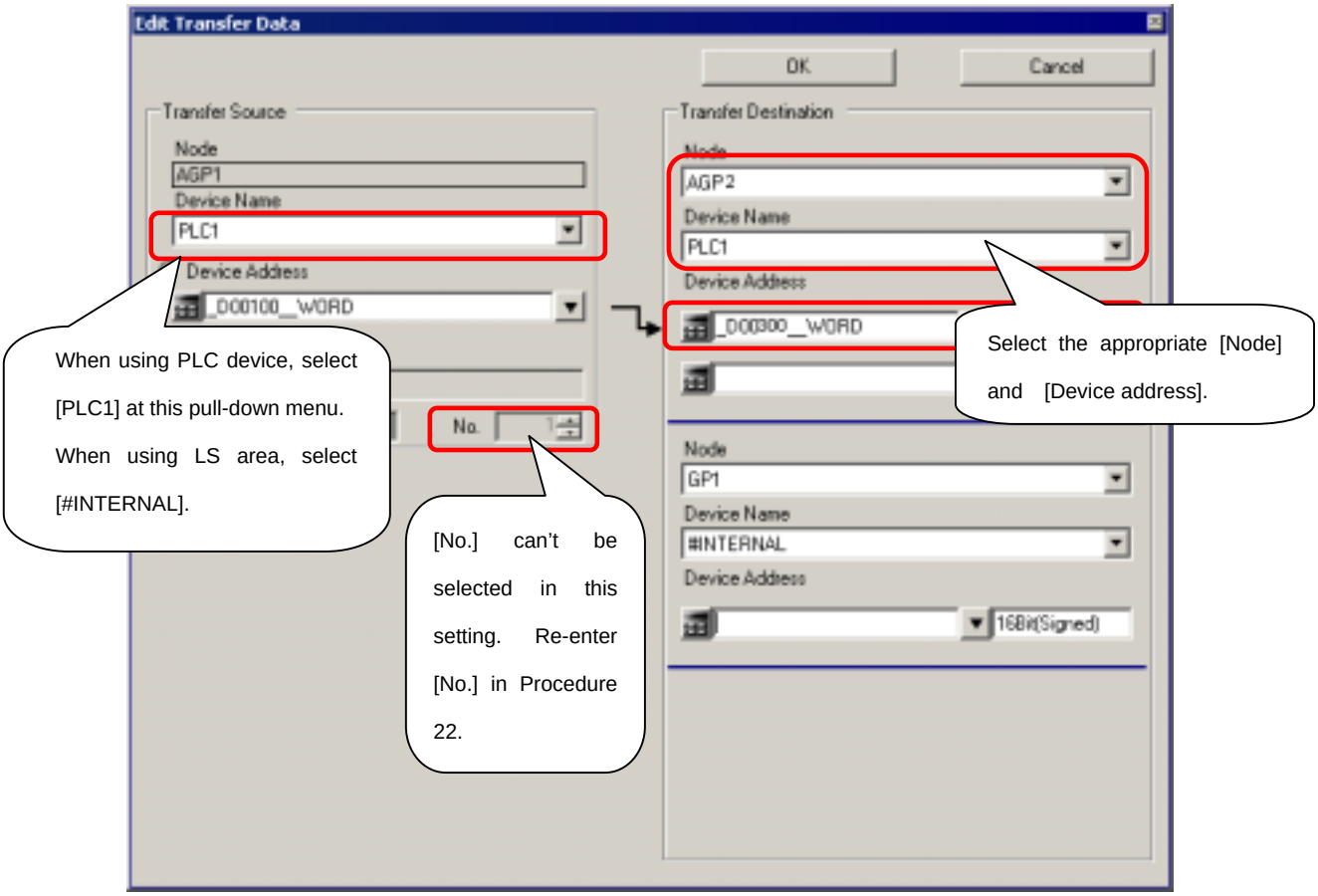
19. Set [Node Name] as the node of [GP3000 Series] selected in Procedure 8, and re-enter [Device Name] and [Device Address], then click [OK].



20. Return to the [Data Transfer (Distribution Type)] dialog box, then click [Edit/Add Transfer Destination].



21. Setup [Device Name] of Transfer Source, [Node], [Device Name] and [Device Address] of Transfer Destination again.



22. If [Number] is 2 or more in Procedure 17, click 

and return to the symbol screen, then setup [No. of Data] again.

Symbol	Data Type	Consecutive	Device Address	No. of Data
_D00100__WORD	16Bit(Signed)		D00100	4
_D00101__WORD	16Bit(Signed)		D00101	1
_D00102__WORD	16Bit(Signed)		D00102	1

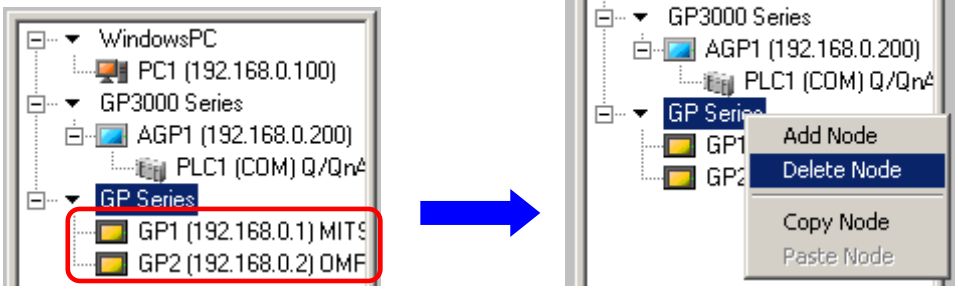
Caution

When [No. of Data] is 0 or 1, settings of Procedure 22 is not required.
Setup [No. of Data] again only if it is 2 or more.

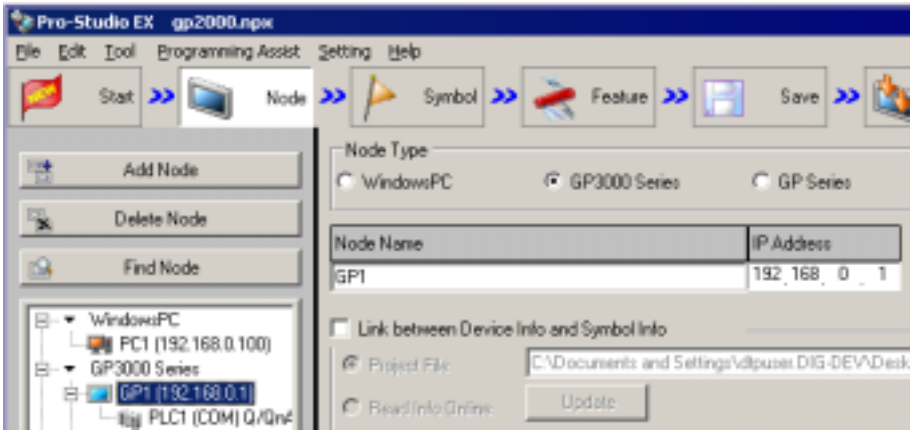
Input the node names and IP addresses

23. Click 

, and write down the nodes and IP addresses that are set in [GP Series] node, then delete all the nodes of [GP Series].



24. Select the added GP3000 Series, and input Node Names and IP Addresses that you have written down in Procedure 16.



What happens if a node name which differs from one registered in [GP Series] is set in [GP 3000 Series]?

Features such as Action, DDE, and Simple DLL function include information of the node name. Therefore, if the node name which differs from the one registered in [GP Series] is set in [GP 3000 Series], you need to re-enter the node name used in some parts of Action settings, file contents of EXCEL and Access used in Action, DDE, or Simple DLL function.

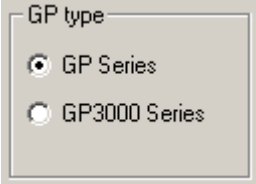
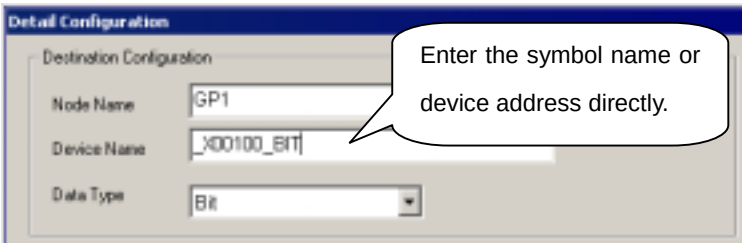
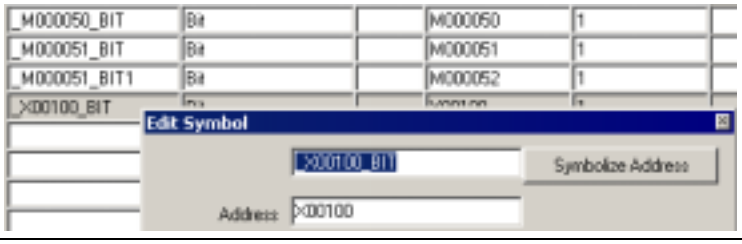
Please set a node name as same as the one registered in [GP Series] if possible. Please note that Pro-Server EX discriminates between capital letters and small letters of node names and symbol names.

Confirm the Action setting

25 Confirm the Action settings with attention to the checkpoints described below.

[Checkpoint 1] Node and device name

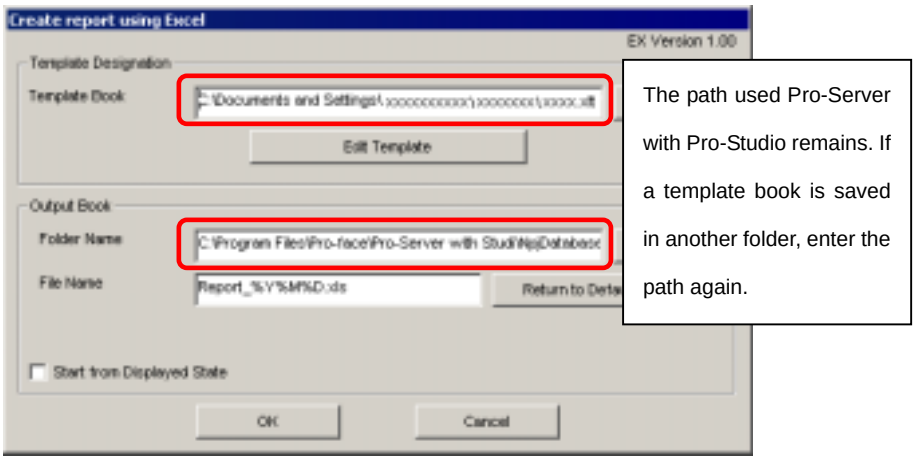
If the following Action is used, confirm the node name and the device name.

Action Name	Modification
Automatic Upload/Download of GP Filing Data	Change to GP3000 in the [GP Type] setting. 
Write data from CSV file	Re-enter [Node Name] and [Device Name].  In [Device Name], input the device or symbol name directly. To input a device name directly, refer to the example shown below. e.g.: PLC1 Device [PLC1]D0100 LS Device [#INTERNAL] LS0100 Memory Link Device [#MEMLINK] 0100 To copy the symbol name from the symbol sheet screen, use [Ctrl+C] key in [Edit Symbol] dialog box. 

[Checkpoint 2] Path name of the folder to read out/ to save, etc.

When using Action, the paths of a folder to save the file or a folder to save the template that are used for the action are not converted. After converting a network project file for Pro-Server with Pro-Studio, designate the folder path used for the action again.

e.g.: Create Report using Excel

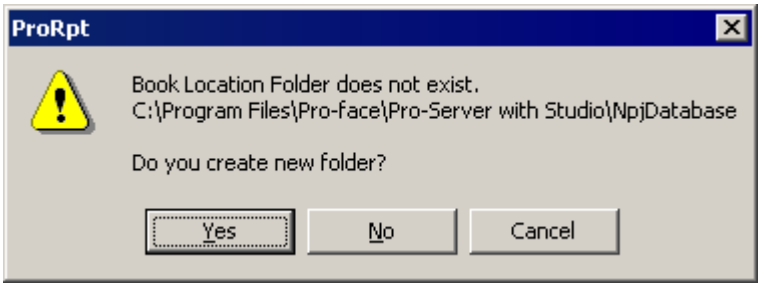


Using [Writes Data to Excel Book] Action

When using the Writes Data To EXCEL Book action, the default settings of the file path on Pro-Server with Pro-Studio is as followed.

C:\Program Files\Pro-face\Pro-Server with Studio\NpjDatabase

Even if the template is not designated, Pro-Server EX does not have this default folder for Pro-Server with Pro-Studio so that the following error appears when you try to change the parameter settings.



In that case, designate the existing folder again.

This is all for transfer to GP3000 series.

2.3 Cautions for replacing the GP unit from GP2000/77R/GLC/FGW series to GP3000 series

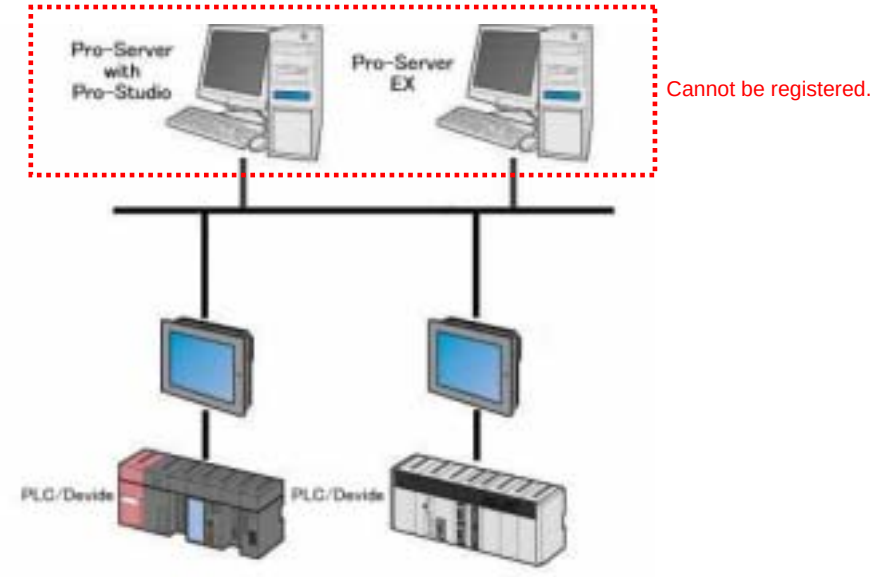
■ Installation of Pro-Server EX and Pro-Server with Pro-Studio

You cannot install both Pro-Server EX and Pro-Server with Pro-Studio on the same PC. In case to install either one, please uninstall the other one.

For example, if you would like to install Pro-Server EX on a PC with Pro-Server with Pro-Studio already installed, uninstall Pro-Server with Pro-Studio before you install Pro-Server EX.

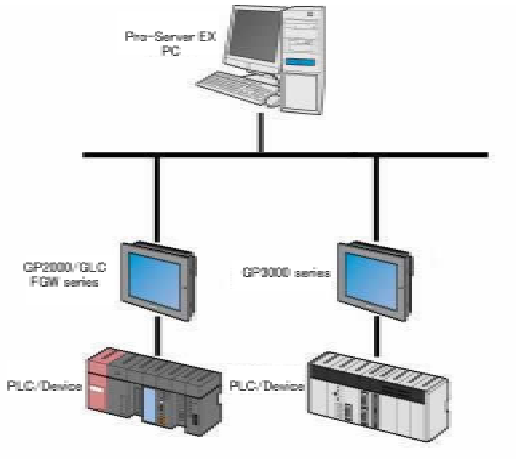
■ Coexistence of Pro-Server EX and Pro-Server with Pro-Studio

For the system that has two or more PCs, a PC with Pro-Server with Pro-Studio installed and a PC with Pro-Server EX installed cannot be registered on the same network project file.



A node of Pro-Server EX and a node of Pro-Server with Pro-Studio cannot be registered on the same network project file.

■ Adding GP3000 series on the system that is running with GP2000/77R/GLC/FGW series



Develop all PCs and GP2000/77R/GLC/FGW series on Pro-Server EX.
By using Pro-Server EX, distribution (data transfer) between GP2000/77R/GLC/FGW series and GP3000 series can be set. However, it does not support the new features of Pro-Server EX because its communication is the same level as Pro-Server with Pro-Studio. Its performance is also the same level as Pro-Server with Pro-Studio.

■ Using GP-Web and GP-Viewer

Pro-Server EX does not support GP-Web and GP-Viewer.

■ Using GP77R Series

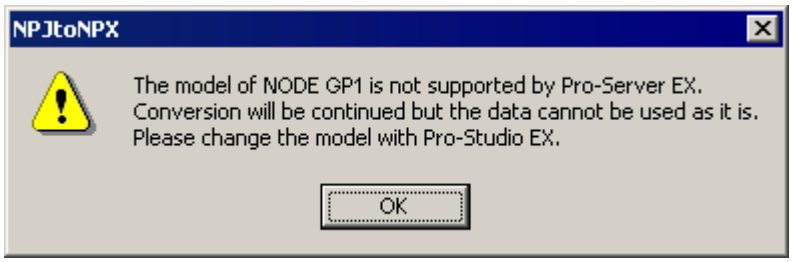
GP77R Series is supported by Pro-Server EX V1.10 and higher.

■ Transferring from GLC series

Symbols of GLC cannot be used with [GP3000 series]. PLC device, LS area and USR area can be used.

■ Special Protocol

Pro-Server EX does not support the following special protocols among the GP protocol types that Pro-Server with Pro-Studio supports. When you open the file (*.npj) for Pro-Server with Pro-Studio that uses a special protocol on Pro-Server EX, the following message appears.



See → Pro-Server with Pro-Studio Operation Manual “3.11.3 Special Protocol”

■ Data View

Pro-Server EX does not support Data View that is supported by Pro-Server with Pro-Studio.

See → Pro-Server with Pro-Studio Operation Manual “1.6 Overview of Data View”

■ Action

- Pro-Server EX does not support Alarm Log (with the Sound Alert feature) that is supported by Pro-Server with Pro-Studio.

- The “Create Report using Excel” action of Pro-Server with Pro-Studio creates distribution (data transfer) information automatically when creating the Excel’s template that is the base of the report. However, the “Report using Excel” action of Pro-Server EX does not have the feature.

  Therefore, it is possible to use a template created via Pro-Server with Pro-Studio and use the “Create Report using Excel” action. However, to create or edit a new template, distribution (data transfer) information is required to be set manually.

  In Pro-Server EX, the “Create form using Excel” action is provided instead of the “Crate Report using Excel” action. To develop a new system using EXCEL, it is recommended to use the “Create form using Excel” action rather than the “Create Report using Excel” action.

■ Simple DLL Function

- The API feature is called “Simple DLL” on Pro-Server with Pro-Studio. On the other hand, it is called “Pro-Server EX API” on Pro-Server EX.

- When a file for Pro-Server with Pro-Studio is converted to a file for Pro-Server EX with using the same system as GP2000/77R/GLC/FGW Series, the node and the device name of Simple DLL do not need to be changed.

- GP3000 series can communicate with multiple device/PLCs at the same time. However, if it is required to designate the device/PLC via some parts of API, connect the node name and the device/PLC name by “ . ” (dot), and designate the device/PLC.
  e.g.) "Node1" -> "Node1.PLC1"

- Pro-Server with Pro-Studio does not discriminate between capital letters and small letters of node names and symbol names. However, Pro-Server EX discriminates.
  For example, “Node1" and "NODE1" are recognized as the same on Pro-Server with Pro-Studio, but they are dealt as different names on Pro-Server EX.

■ API related to CF card

There are two types of API functions to obtain information inside CF card.

EasyGetListInCard
EasyGetListInCfCard

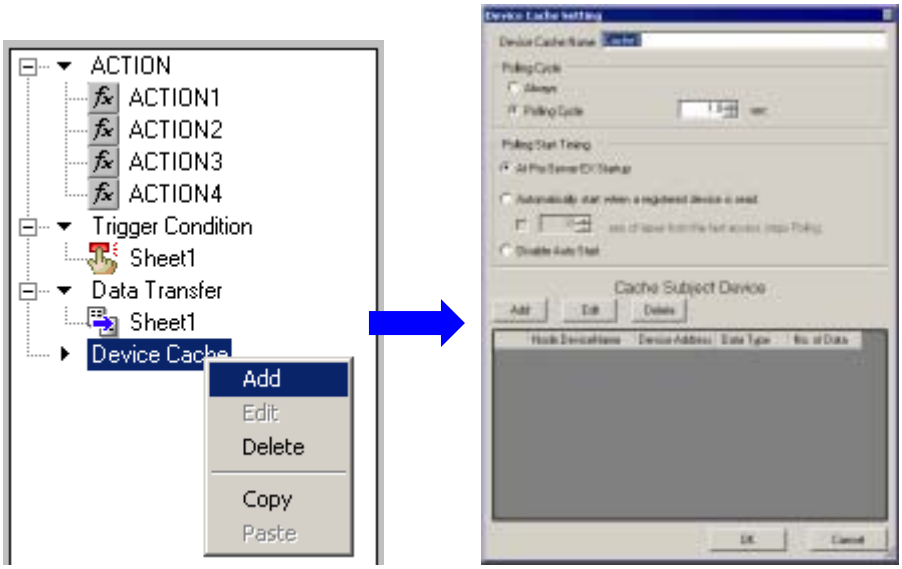
Functions above can obtain the data of yy/mm/dd/hh:mm:ss from CF card of GP series node. However, they can only obtain the data of yy/mm/dd/hh:mm from CF card of GP3000 series node. Data of “second” remains zero all the time.

■ Device Cache

As described below, operation when a device cache is reading differs between Pro-Server with Pro-Studio and Pro-Server EX.

	Using Cache Feature of Device Data
Pro-Server with Pro-Studio	When using API that has a device cache polling feature, devices to be cached are automatically registered in Pro-Server.
Pro-Server EX	When using API that has the device cache polling feature without device cache registered, it always become Direct Read on Pro-Server EX. To use the cache feature, you need to register devices to poll beforehand, and need to control the polling.

If you use an application, which has been created via Pro-Server with Pro-Studio, on Pro-Server EX without cache registration, communication or operation might be slower. In this case, register the device to read as a cached device on Pro-Server EX.



See → Pro-Server EX Reference Manual "28.4 Cache Registration of Frequently Used Devices"

In addition, Pro-Server EX has the Device Access Log feature to confirm which device is accessed. Please refer to "Pro-Server EX Reference Manual 28.5 Device Access Log for more details.

■ OPC

The OPC feature is supported by Pro-Server EX Ver. 1.20 and higher.

You can use the OPC client, which has been operated on Pro-Server with Pro-Studio, on Pro-Server EX, however, you need to change the Program ID.

Program ID for OPC Client of Pro-Server with Pro-Studio	Program ID for OPC Client of Pro-Server EX
digital.opcpro.1	Pro-face.OPCEx.1

Pro-Server EX Ver. 1.20 and higher conform to OPC DA（Data Access） Ver. 3.0 and Ver. 2.05A.

・Interface supported by OPCEx

Data Access Server I/F	DA1.0	DA2.0	DA3.0	OPCEx
OPC Server Object				
IUnknown	Required	Required	Required	○
IOPCServer	Required	Required	Required	○
IOPCCommon	N/A	Required	Required	○
IConnectionPointContainer	N/A	Required	Required	○
IOPCItemProperties	N/A	Required	N/A	○
IOPCBrowse	N/A	N/A	Required	○
IOPCServerPublicGroups	Optional	Optional	N/A	×
IOPCBrowseServerAddressSpace	Optional	Optional	N/A	○
IOPCItemIO	N/A	N/A	Required	○
IProFaceShutdown	N/A	N/A	N/A	○
OPC Group Object				
IUnknown	Required	Required	Required	○
IOPCItemMgt	Required	Required	Required	○
IOPCGroupStateMgt	Required	Required	Required	○
IOPCGroupStateMgt2	N/A	N/A	Required	○
IOPCPublicGroupStateMgt	Optional	Optional	N/A	×
IOPCSyncIO	Required	Required	Required	○
IOPCSyncIO2	N/A	N/A	Required	○
IOPCAsyncIO2	N/A	Required	Required	○
IOPCAsyncIO3	N/A	N/A	Required	○

	IOPCItemDeadbandMgt	N/A	N/A	Required	○
	IOPCItemSamplingMgt	N/A	N/A	Optional	×
	IConnectionPointContainer	N/A	Required	Required	○
	IOPCAsyncIO	Required	Optional	N/A	×
	IDataObject	Required	Optional	N/A	×
EnumOPCItemAttributes					
	IEnumOPCItemAttributes	Required	Required	Required	○
Client Side Interface					
	IOPCDataCallback	N/A	Required	Required	○
	IOPCShutdown	N/A	Required	Required	○

■ Security

You can administrate the operator which can control Pro-Server at the following level; “Administrator Mode”, “Read/Write Mode”, “Read only Mode”, and “Disconnect Mode” on Pro-Server with Pro-Studio. However, Pro-Server EX does not support the feature.

On Pro-Server EX, you can set a password when saving a network project file in order to block unauthorized editing.

See → “Pro-Server EX Reference Manual 22. Enhancing Security”

■ Support of Multi-LAN Cards (Multi-IP Addresses)

When multiple IP addresses are allocated such as in case that one PC has multiple LAN cards, you need to select one IP address that Pro-Server uses on Pro-Server with Pro-Studio.

On Pro-Server EX, you do not need to select an IP address and all IP addressees can be used.

■ Distributing Character String

When distributing a value of a character string in a device, if the number of distribution data (the number of strings) is not an integral multiplication of 2 for16-bit device or not an integral multiplication of 4 for 32-bit device, it is distributed internally as a number of strings of integral multiplication of 2 or that of 4 on Pro-Server with Pro-Studio.

That is; For 16-bit device, the result is the same whether the number of data is 1 or 2.

For 32-bit device, the result is the same whether the number of data is 1, 2, 3, or 4.

Pro-Server EX deals a character string by designated number of data, not by integral multiplication of the number of data according to the bit length of the device. Therefore, the results of distribution character strings that are not integral multiplication are not the same. To have the same result, set the number of the string to be an integral multiplication according to the bit length of the device on Pro-Server EX.

The above description applies to the distribution to enable actions. For a character string, set the number of the string to be an integral multiplication.

Concluded