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March 2014

**MELSOFT**  
**Integrated FA Software**

# **MX OPC Configurator**

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## INTRODUCTION

Thank you for choosing the Mitsubishi MELSOFT Series Integrated FA software.  
Read this manual and make sure you understand the functions and performance of MELSOFT series thoroughly in advance to ensure correct use.

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# 1 Introduction to MX OPC Server

The MX OPC Server 6.05 is a Mitsubishi I/O driver OPC Data Access (DA) and Alarm/Events (AE) server that provides the interface and communications protocol between a wide range of Mitsubishi hardware and your process control software. Mitsubishi drivers incorporate the following attributes to provide flexibility and ease-of-use:

OLE for Process Control (OPC) compliance.

The MX OPC Server consists of the following components:

- MX OPC Configurator
- MX Runtime

The MX OPC Server complies with version 3.00 of the OLE for Process Control (OPC) Data Access standard, version 1.01 of the OPC XML Data Access standard, and version 1.01 of the OPC Alarm and Events standard. Any OPC client application can access process hardware data through the I/O Server.

## 1.1 Compatibility with Former Versions

The MX OPC Server 6.05 is fully backward compatible with previous versions (4.20, etc.). The configuration databases from all previous versions can be used. The MX OPC Server 6.05 Configurator provides an automated conversion from the older configuration database into the current structure. All the database content will be preserved and converted into the new structure if needed.

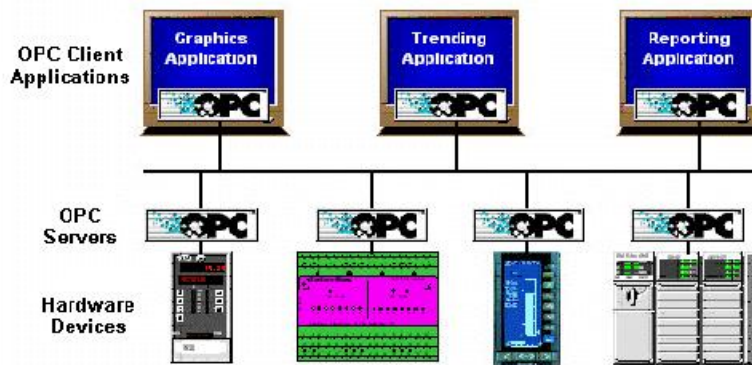
The MX OPC Server 6.05 configuration database cannot be used in the previous versions.

The MX OPC Server does not support importing of CSV configurations generated by a different version. Although this process is partially successful in some versions, the 6.05 version will not import a CSV file created before version 6.05 due to major changes in the database structure.

To preserve the configuration, the user can import the CSV file to a MDB database using the original configurator, upgrade the MDB database using the MX OPC Server 6.05 configurator and then export to CSV.

## 1.2 What Is OLE for Process Control

OLE™ for Process Control (OPC) is a standards-based approach for connecting data sources (e.g., PLCs, controllers, I/O devices, databases, etc.) with HMI client applications (graphics, trending, alarming, etc.). It enhances the interface between client and server applications by providing a universally supported and well-documented mechanism to communicate data from a data source to any client application. Included are not only a detailed guide on how to pass the data, but also specific information on other attributes to supplement those data, such as range information, data type, quality flags, and date and time information. The figure below shows the OPC Architecture, which was introduced by the OPC Foundation. By following the OPC Architecture, a device needs only one standard driver, which is an OPC-compliant server. All OPC-compliant client applications can then be connected to that device, either locally or over a network. Furthermore, connections can be made to more than one OPC server at the same time.



**OPC-Based Client-Server Architecture**

Any OPC client application can connect to any OPC server. In other words, OPC offers true Plug-and-Play capability in the fields of HMI and industrial automation. OPC server types include OPC Data Access (DA), OPC Alarm and Events (AE), and OPC Historical Data Access (HDA).

## 1.3 MX OPC Runtime

The MX OPC Runtime maintains the driver's communication channels, devices, and data tags, performs all required functions for communicating with the process hardware, and exposes the methods and properties to other applications.

In addition to performance improvements, the MX OPC Runtime provides the following functionality:

- Supports OLE for Process Control (OPC)
- Provides local configuration and control
- Supports telephone modem communication
- Provides phasing
- Enables or disables Individual devices and tags
- Provides QuickFail Logic
- Provides latched data
- Provides a time/date stamp for data and alarms
- Supports individual bit reads
- Provides advanced diagnostics.
- MX Component.

## 1.4 MX OPC Configurator

The I/O Driver Configurator is a client application to the I/O Server with a graphical user interface. The MX OPC Configurator accesses the I/O Server and lets you view and modify properties of communication channels, devices and data tags.

The MX OPC Configurator provides the following:

- The server connection - only local I/O Server.
- The tree control for an overall view of your system configuration.
- A Statistics View for displaying the statistics of your I/O driver while it is running. Statistics are provided for devices.
- A Configuration View for displaying and modifying device and tag properties.
- A Monitor View for displaying real-time data tag values during runtime mode.
- An interface to the MXComponent Communication Setting Wizard for importing or creating new configurations.
- Support for telephone modem communication.
- Templates for configuring default alarm settings.
- Simulation for tags and alarms using a built-in function pattern.

## 1.5 OPC client software

The OPC server has been tested with a range of client software. The table below shows which data types are supported by each one.

Data type	RSview	LabView 8	iFIX 3.5	InTouch v9	Genesis32 v8
BOOL	✓	✓	✓	✓	✓
WORD	Note 2	✓	Note 2	✓	✓
DWORD	Note 3	✓	Note 1	Note 1	✓
UINT	Note 2	✓	Note 2	✓	✓
UDINT	Note 3	✓	Note 3	Note 1	✓
INT	✓	✓	✓	✓	✓
DINT	✓	✓	Note 4	✓	✓
REAL	✓	✓	✓	✓	✓
STRING	✓	✓	✓	✓	✓
Bit notation .	✓	✓	✓	✓	✓
Array notation []	✓	✓	✓	✓	✓
Arrays	Note 5	✓	Note 5	Note 5	✓
n-based arrays	Note 5	Note 5	Note 5	Note 5	Note 6

### Notes

1. Supports this type only for values in signed DINT range 0..2147483647
2. Supports this type only for values in signed INT range 0..32767
3. Does not support unsigned 32-bit values
4. Does not read the correct value in all cases
5. This type of array variable is not fully supported - use of array notation [] is recommended instead.
6. When writing n-based arrays from OPC data spy, additional elements must be supplied for elements from 0 to the start of the array. For example, to write two values to an array of size 2 with lower bound 3, use '0,0,0,1,2'.

In the event of problems getting client software to read values from the OPC server, try the following:

- Select the native type of the OPC tag instead of using the default, e.g. set the requested data type to 'boolean' for BOOL tags, etc.
- Ensure that any scaling in the client package is set up correctly for the possible values of the OPC tag.
- Use array element notation (e.g. 'Item[0]' ) to read array elements, instead of trying to read the whole array tag.

## 1.6 Installing MX OPC Server

This section describes the steps for installing the MX OPC Server. Be sure to close any other applications before installing MX OPC Server.

There are two separate parts to the software:

- The MX OPC runtime module, which reads data from the device
- The MX OPC configurator, which defines the data to be read

The MX OPC Server runtime module can optionally be installed as a service. Services run automatically in the background whenever the computer is started; they do not rely on a user logging in to the computer to start the program manually.

### 1.6.1 System Requirements

To use MX OPC Server 6.05, your computer must meet the following minimum system requirements:

- 233 MHz processor
- 512 MB RAM
- 100 MB disk space
- 8x speed CD-ROM drive
- VGA video card (256 or more colors for best results)
- One of the following operating systems:
  - Windows® 8 (32-bit or 64-bit)
  - Windows® 7 (32-bit or 64-bit)
  - Windows® Server 2008 (R2)
  - Windows® XP with Service Pack 3
  - Windows® 2003 Server

Performance will improve with higher specification hardware (faster data updates).

**Note:** Only versions of Microsoft Windows that accommodate Unicode character sets are supported.

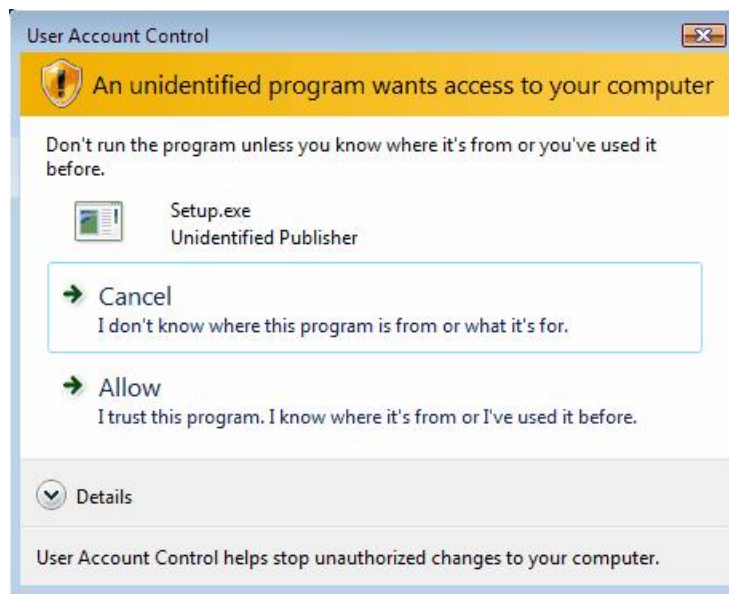


## 1.6.2 Installation Procedure

The following steps detail the MX OPC Server installation:

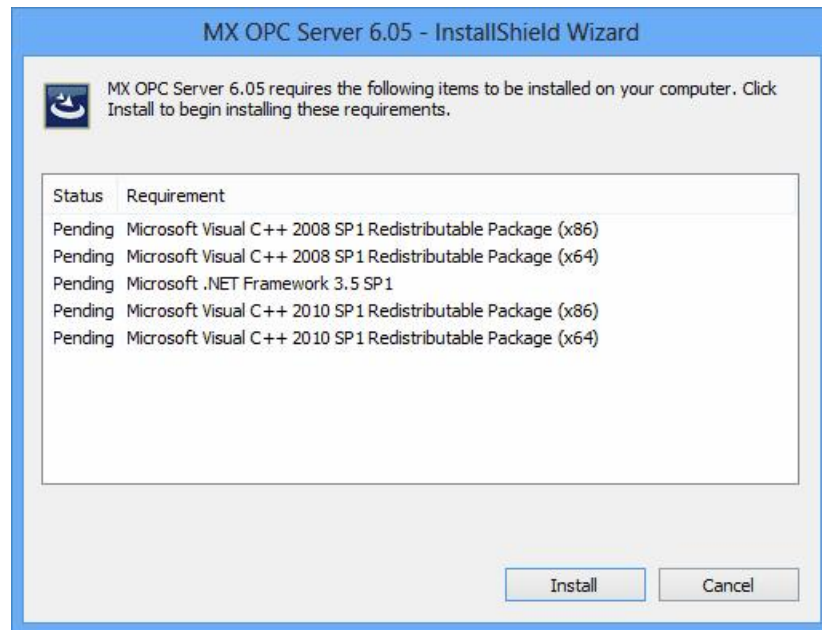
**Note:** If your operating system (e.g., Windows NT) requires a login name, you must log in with administrator capability before installing MX OPC Server.

1. Before installing the software, be sure that all other applications are closed and/or disabled.
2. Insert the product CD into your CD-ROM drive. If the option to start CDs automatically is enabled in your operating system, the CD introduction starts automatically. Otherwise, browse to your CD-ROM drive and run the program "Setup.exe".
3. If you are installing on Windows Vista or later operating systems, you may see a warning prompt similar to the one below. Click **Allow** or **Yes** to continue the installation.



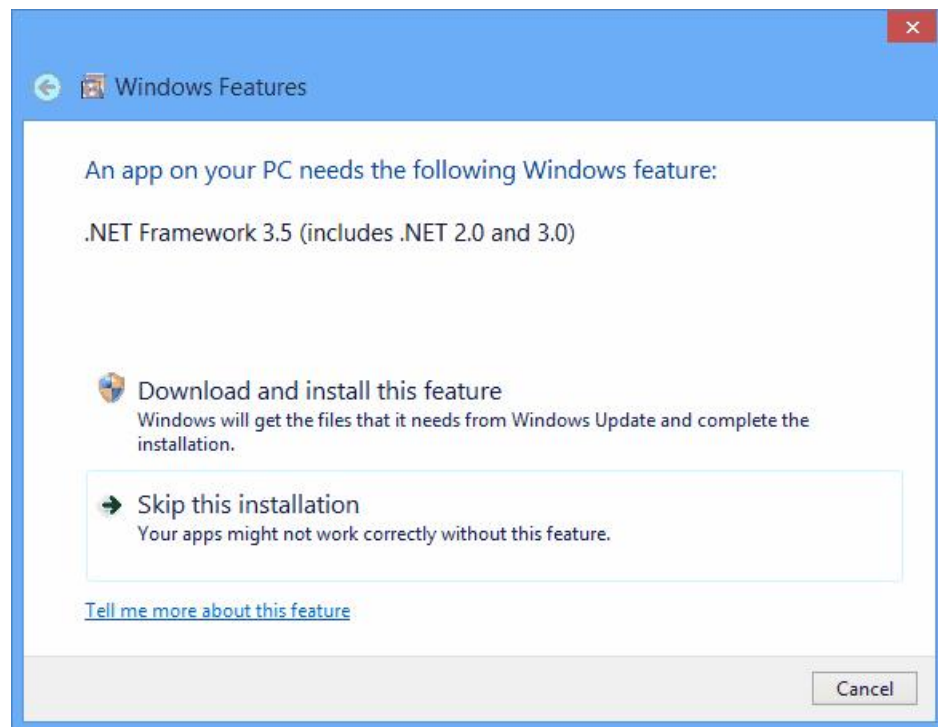
**Account control prompt**

4. You will be prompted to install some additional required software if it is not already installed on your computer. Click 'Install' to continue.



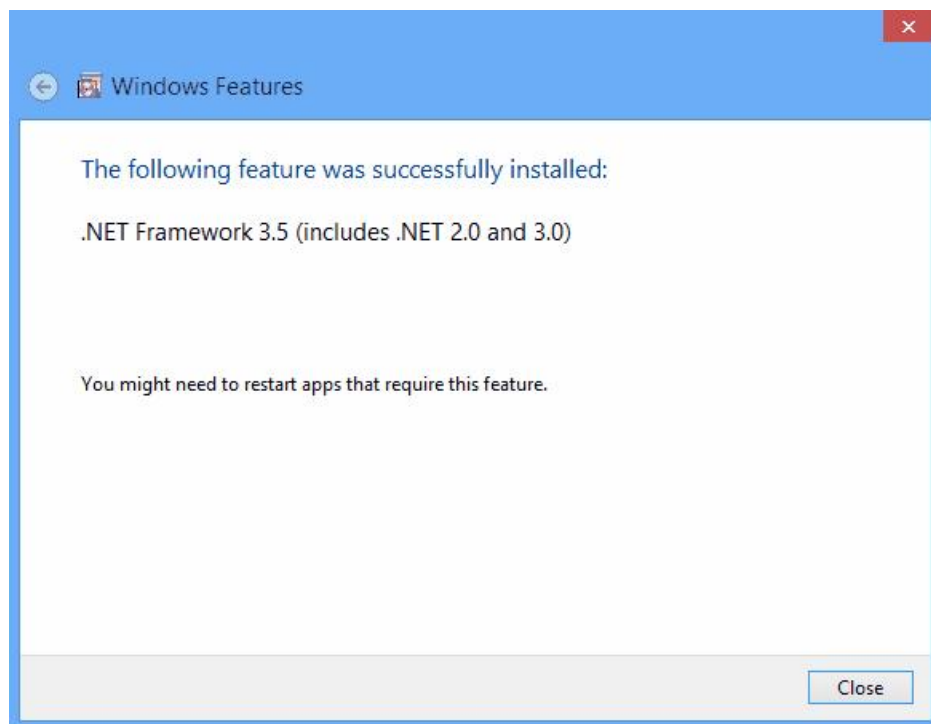
#### Install additional required software

On later operating systems (such as Windows 8) you may be prompted to install additional Windows features. If so, select 'Download and install this feature'.



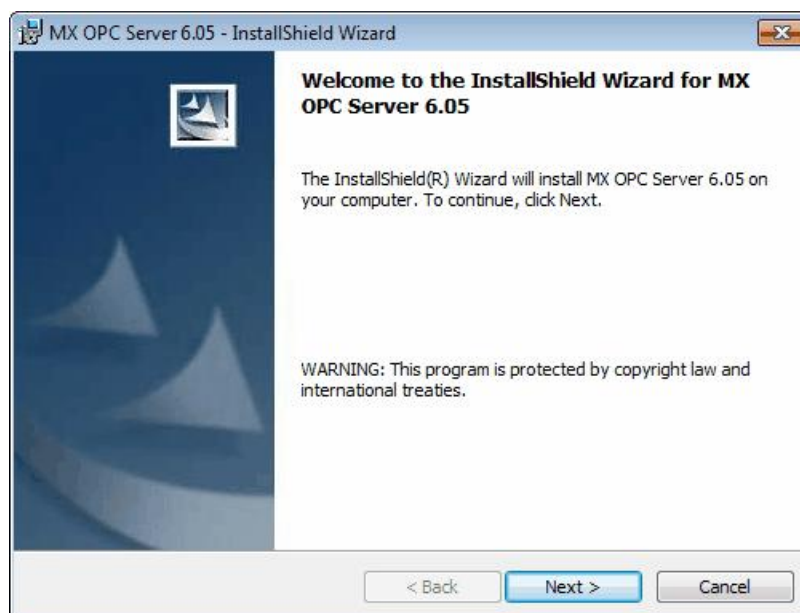
#### Install Windows features

When the features have finished installing, you will see the screen below. Click 'Close' to return to the installer.



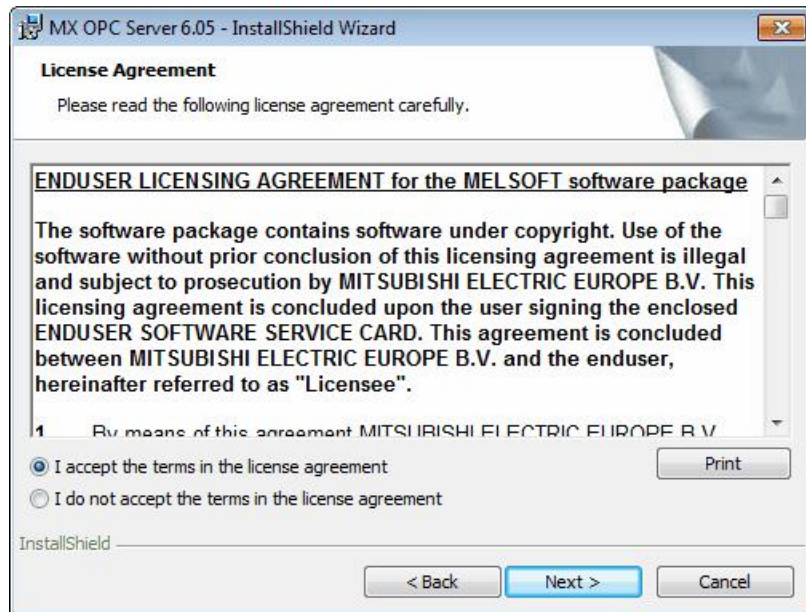
**Windows features installed**

5. At the Welcome screen (shown in the figure below), click the Next button to continue.



**Welcome Screen**

6. The **Software License Agreement** dialog box appears, as shown in the figure below. Read the License Agreement. Click **Next** if you accept the terms of the agreement.



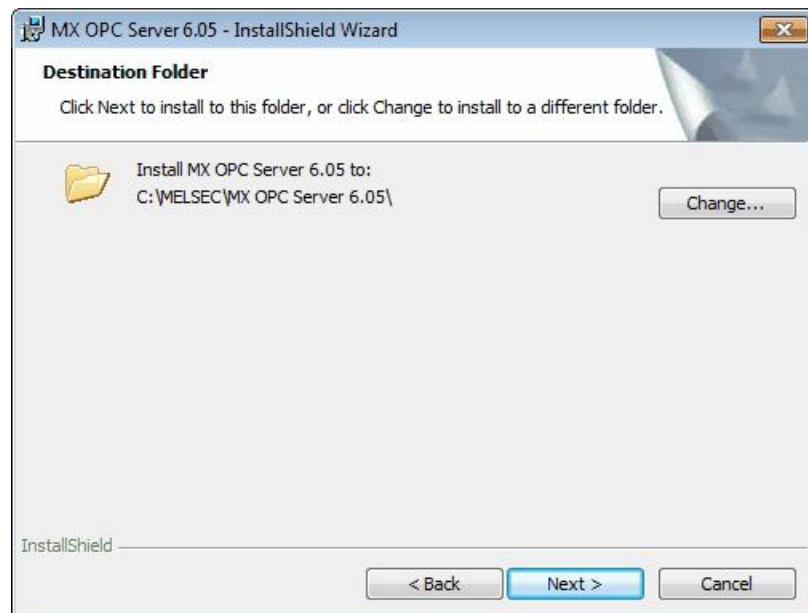
**Software License Agreement**

7. The **Customer Information** dialog box appears, as shown in the figure below. Enter your name, your company's name, and your product serial number. Click **Next** to continue, and confirm your registration information.

The screenshot shows a dialog box titled "MX OPC Server 6.05 - InstallShield Wizard" with the heading "Customer Information" and the instruction "Please enter your information." It contains three input fields: "User Name:" (a single-line text box), "Organization:" (a single-line text box), and "Serial Number:" (a five-digit box with hyphens between digits). Below the serial number field, a note says: "Please type in 'DEMO' into the first field of the Serial Number to install a functional limited Demo Version." At the bottom, there are three buttons: "< Back", "Next >" (highlighted in blue), and "Cancel". The "InstallShield" logo is in the bottom left corner.

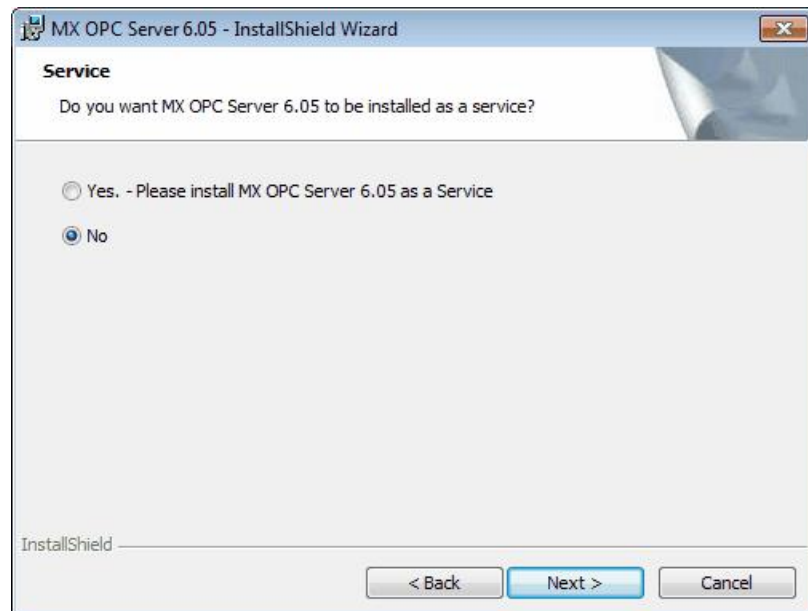
**Entering Customer Information**

8. The **Choose Destination Location** dialog box appears, as shown in the figure below. Choose the destination location for the software installation. If you wish to keep the default location, click the **Next** button to continue. If you prefer to select a different directory location for the installation, click the **Change** button to select a different drive or directory. Click **Next** to continue.



**Choosing the Destination Location**

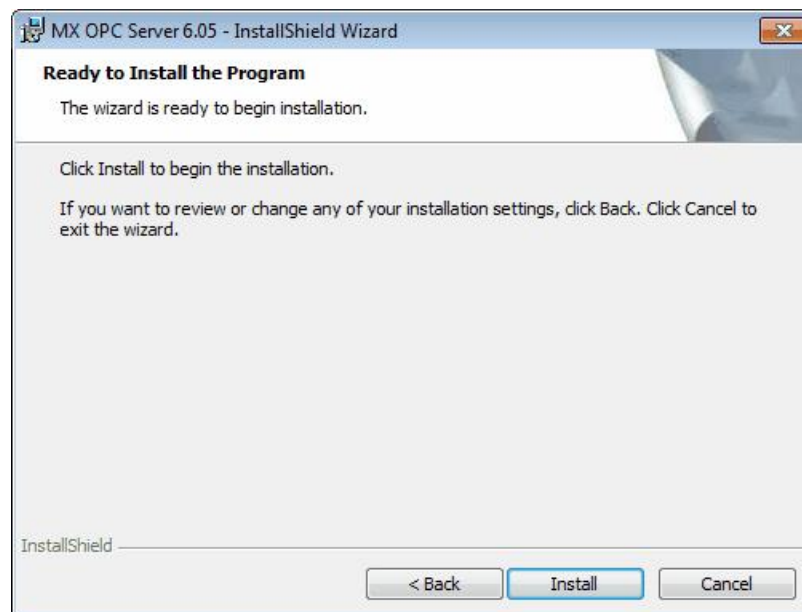
9. The **Setup Type** dialog box appears, as shown in the figure below, giving you the option to install MX OPC Server as a Windows service. Select **Yes** or **No**, and then click the **Next** button to continue.



**Option to Run MX OPC Server as a Service**

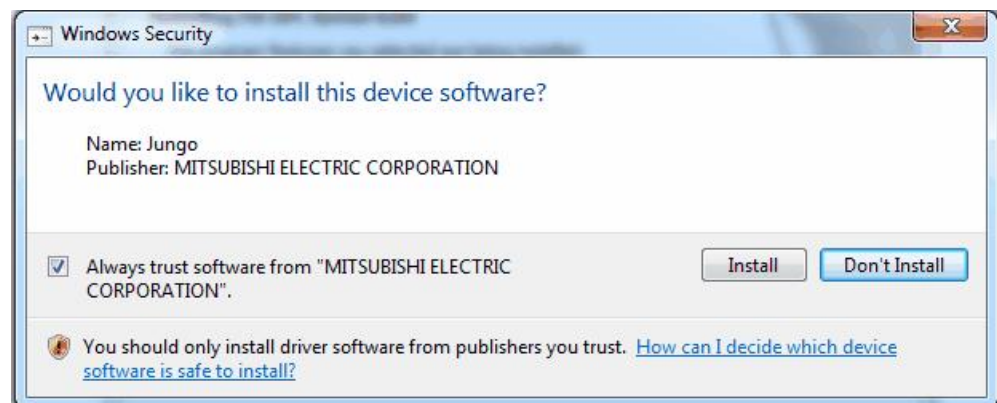
10. Click **Install**, as shown in the figure below, to begin installing the files. MX Component, EasySocket and MXChange server will also be installed.

**Note:** You can click **Cancel** to stop the installation procedure at any time.



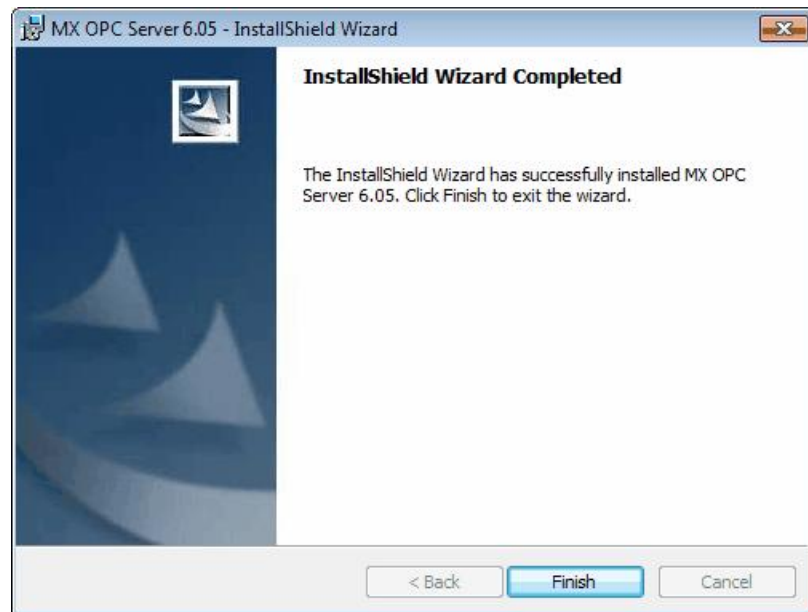
**Ready to install**

11. During the installation, depending on your operating system you may see a warning similar to the one below prompting you to install the necessary drivers. Select 'Install' or 'Yes' when prompted.



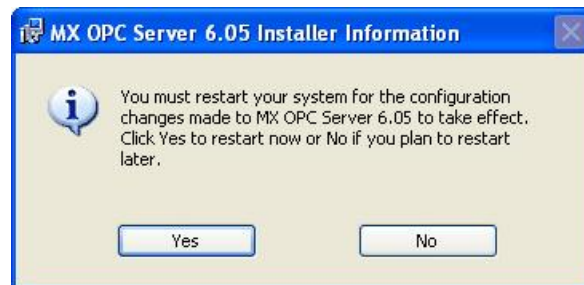
**Driver installation prompt**

12. After all files and components have been installed, click the **Finish** button to complete the installation, as shown in the figure below. If you installed MX OPC server as a service, you will also be given the option to configure the service immediately. After choosing whether to configure the service now or later, click the **Finish** button.



**Installation Complete**

13. You may be prompted to restart your computer before using the product. If a prompt similar to the one below is shown, either select **Yes** to restart immediately (and force all other running applications to close) or **No** to close other applications and restart manually.



**Restart prompt**

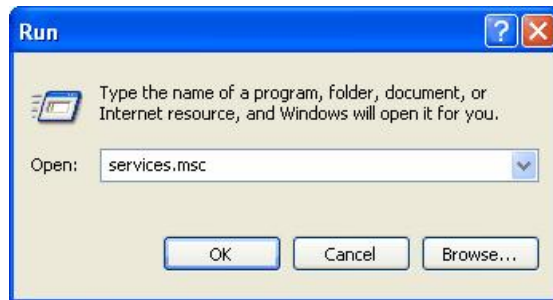


### 1.6.3 Configuring the service

When the OPC server is installed as a service, it can be useful to configure it to run using a specific user account. The 'OPC enumeration' EXE is also installed as a service. In this section, the 'OPC enumeration' EXE will be used as an example, but the same method applies when the OPC server settings are changed.

First, open the 'services' page:

**Windows XP, Windows 2000 or Windows Server 2008 R2:** select 'Start' -> 'Run', enter 'Services.msc' in the dialog that appears and click 'OK'.



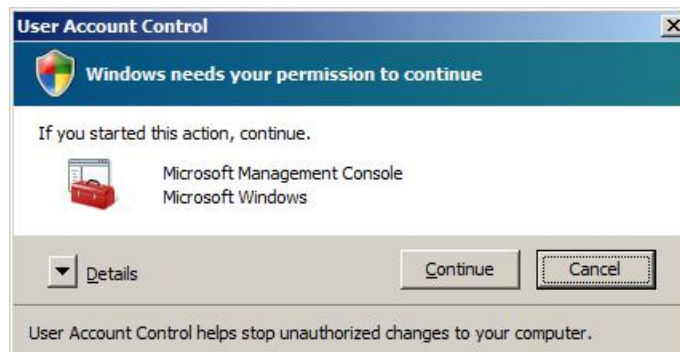
**Windows 7 or Windows Server 2008 R2:** click the Windows icon, then enter 'Services.msc' in the search box and press enter.



**Windows Vista:** click the start button, then enter 'Services.msc' in the search box and press enter.



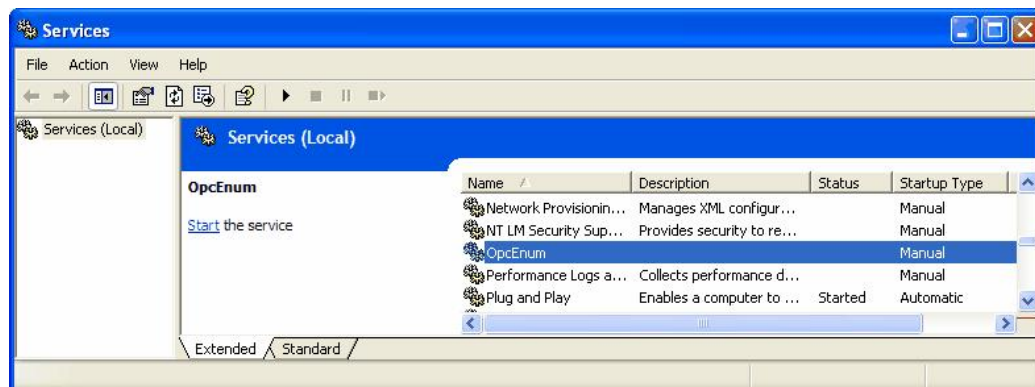
If a 'User account control' prompt like the one below is shown, click 'Continue'.



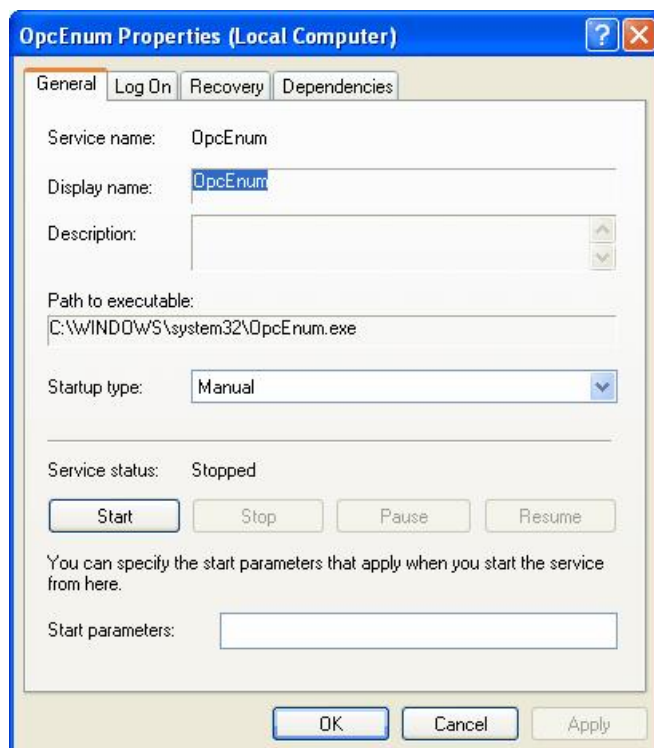
The remaining screens are similar for all operating systems.



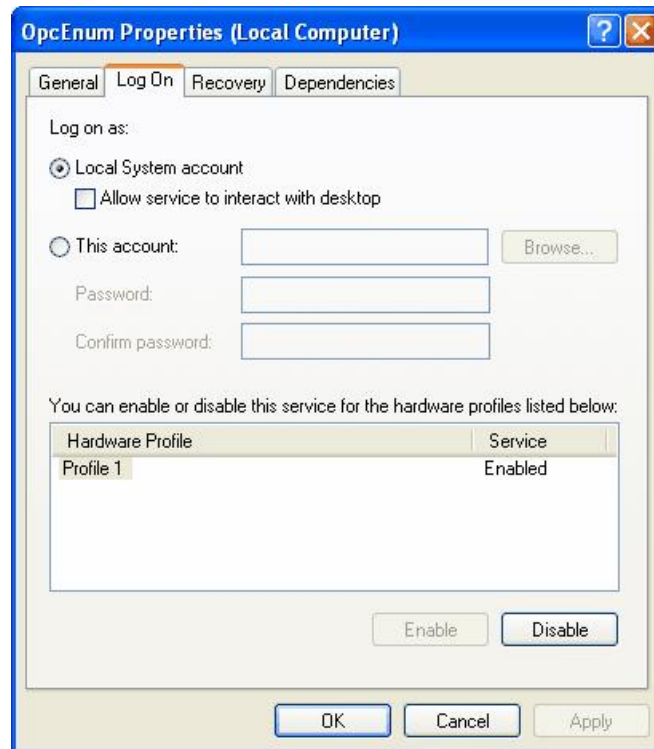
Find the service to be changed in the list. The sample screen below shows the OPC enumeration service.



Right click on the service name and select 'Properties'. The service configuration screen (below) will be shown.



Switch to the 'Log On' tab, select 'This account' and enter the username and password of the user to run as.



Now select 'OK' and close the services window.

#### 1.6.4 Rebooting the PC

In the situation where MX OPC Server is running on a PC, which needs to be rebooted or switched off, we suggest following the instructions below:

1. Start the MXConfigurator application and stop the MX OPC server
2. Close the MXConfigurator application and disconnect all clients from the MX OPC Server runtime application

This procedure needs to be followed due to the fact that the MX OPC Server runtime accesses the MSACCESS runtime database functions. In the situation where the PC is switched off while the MX OPC server is simultaneously accessing the database, there can be damage or data may not be accessible.

### 1.7 MX OPC Server Quick Start

The objectives of this Quick Start section are to:

1. Start the MX OPC Configurator.
2. Set up the driver.
3. Set up a communication channel.
4. Create and configure a new device.
5. Create and configure a new data tag.
6. Start the I/O Server driver.
7. Connect to the server using OPC DataSpy.

### 1.7.1 Starting the MX OPC Configurator

Once you have installed MX OPC Server, start the MX OPC Configurator:

1. From the Windows Start menu, select **[All] Programs > MELSOFT Application > MX OPC Server 6.05 > MX OPC Configurator**.  
**Note:** The name of the program folder may vary depending on your local settings (e.g. language settings).
2. This opens the Configurator for the MX OPC Server, as shown in the figure below. The screen consists of a split window with a tree control view in the left-hand pane and a configuration view in the right-hand pane. The Configurator provides a default standard configuration database called MXConfigurator.mdb, which contains a sample configuration project.



**Configurator Screen**

The MX OPC Configurator is a client of the MX OPC Runtime that accesses the I/O Server and lets you view and modify properties for devices and data tags. The Address Space tree control in the Configurator sets the properties and connection parameters for the following hierarchy of server objects:

- **Devices:** A device is a hardware device or station that uses the I/O driver to communicate with a client PC. The device item contains the properties and methods that govern the behavior of a device. A device is visible to the OPC client.
- **Data tags:** A data tag is an object that makes device data accessible to OPC clients. Data tags can be logically organized into groups (folders).

### 1.7.2 Setting Up the Driver

The table below provides a general overview of the steps necessary for setting up your I/O driver.

**1 Know your process hardware:**

- What device does the driver communicate with?
- What type of cable are you using?
- What is the station number for each device?
- What addresses do you want to access and what data do you want to retrieve?

**2 Know the hardware parameters:**

Example for serial communication

- COM Port
- Baud Rate
- Stop Bits
- Data Bits
- Parity

**3 Choose the method of configuration:**

Use the MX OPC Configurator

**4 Configure the I/O Driver:**

Configuring Communication Channels

Configuring devices

Setting default values for driver, channels, devices and tags

Configuring tags

**5 Check the I/O Driver Status:**

Using monitoring mode

### 1.7.3 Creating Communication Channels

In the following examples, we will create and configure new channels for both the Serial and Ethernet communication paths.

#### Serial Communication Channel

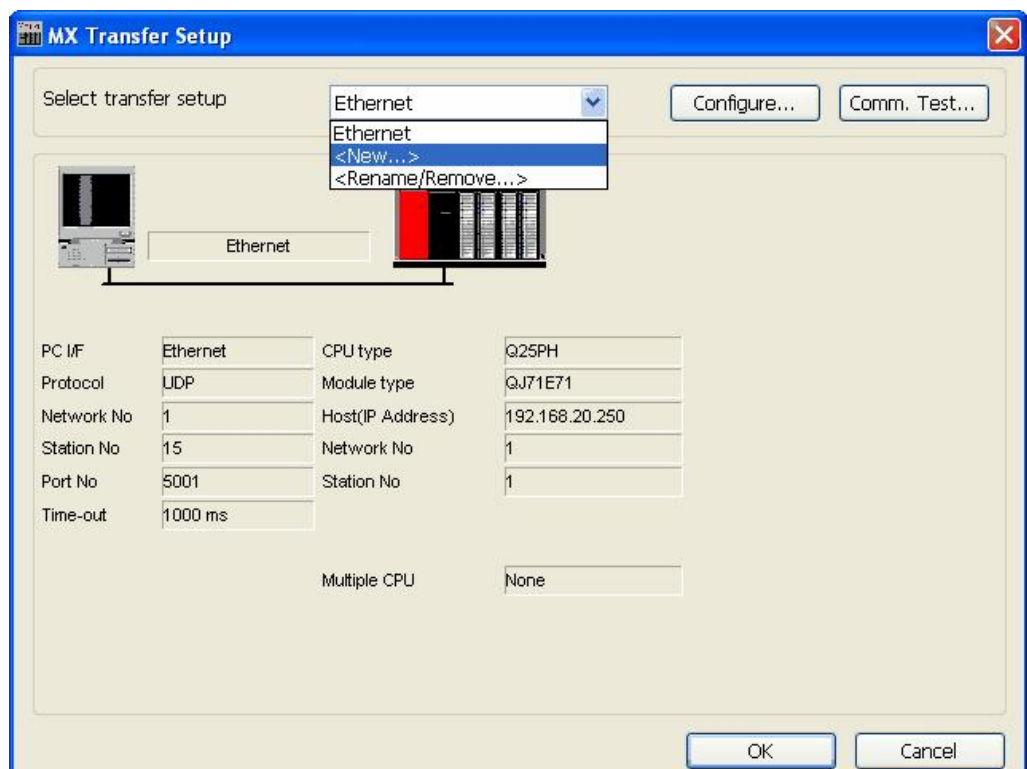
To create a new Serial communication path:

1. Right-click the Address Space tree control of the Configurator screen and select **New MX Device** from the pop-up menu, as shown in the figure below.



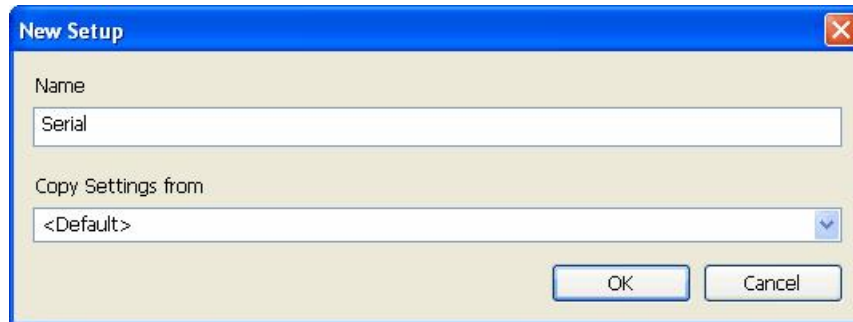
Adding a New MX Device

2. The **MX Transfer Setup** dialog will be shown. You can either select an existing transfer setup, or (as in the example below) select <New...> to create a new transfer setup.



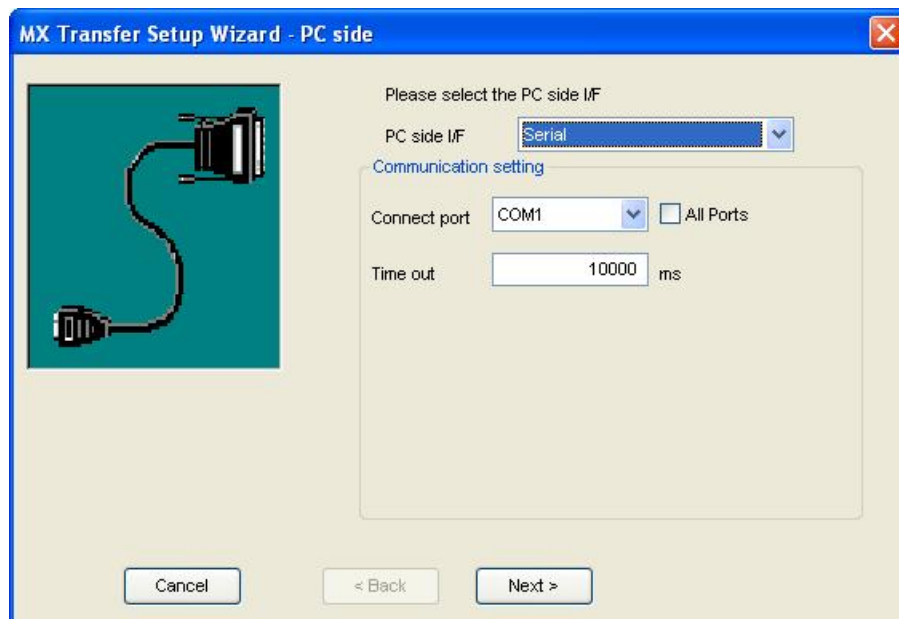
MX Transfer Setup dialog

3. The **New Transfer Setup** dialog will appear. Enter a name for the new transfer setup (*Serial* in the picture below) and select *<Default...>* as the template, then click **OK**.



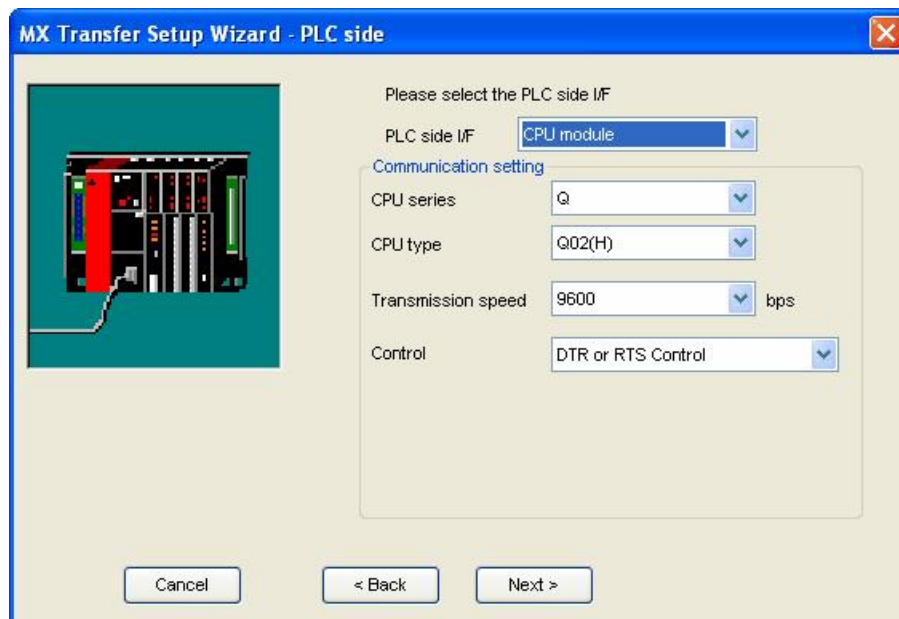
Entering a transfer setup name

4. The new transfer setup can now be edited using the **Communication Setting Wizard**, as shown in the figure below. Specify the communication type to use on the PC side, as shown in the figure below. In the **PC Side I/F** field, select the **Serial** connection type from the drop-down list. By default, you will only see the physical COM ports that are actually available on your computer. If you are preparing a configuration to be used on another computer which has different COM ports, check the **All ports** box to show a full list of possible serial ports. After entering the details, click **Next** to continue.



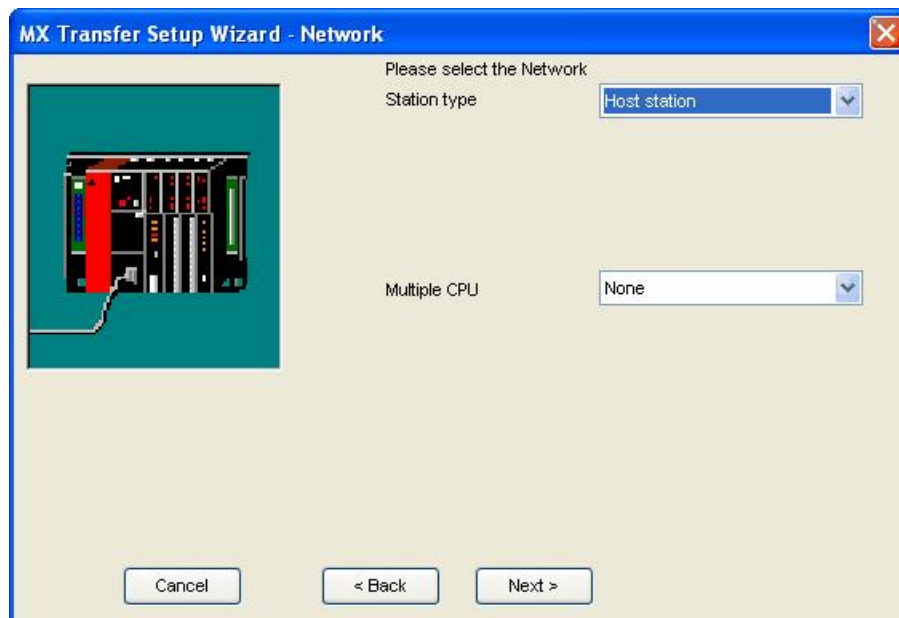
Setting up a Connection for the PC Side

5. Now you must specify the communication type to use on the PLC (device) side, as shown in the figure below. In the **PLC Side I/F** field, select a communication type from the drop-down list as the connection type to use for the selected channel. Click **Next** to continue.



#### Setting up the Connection for the PLC Side

6. Select the network **Station Type** and **CPU Type** (if applicable) from the respective drop-down lists, as shown in the figure below. Click **Next** to continue.



#### Configuring Network Settings

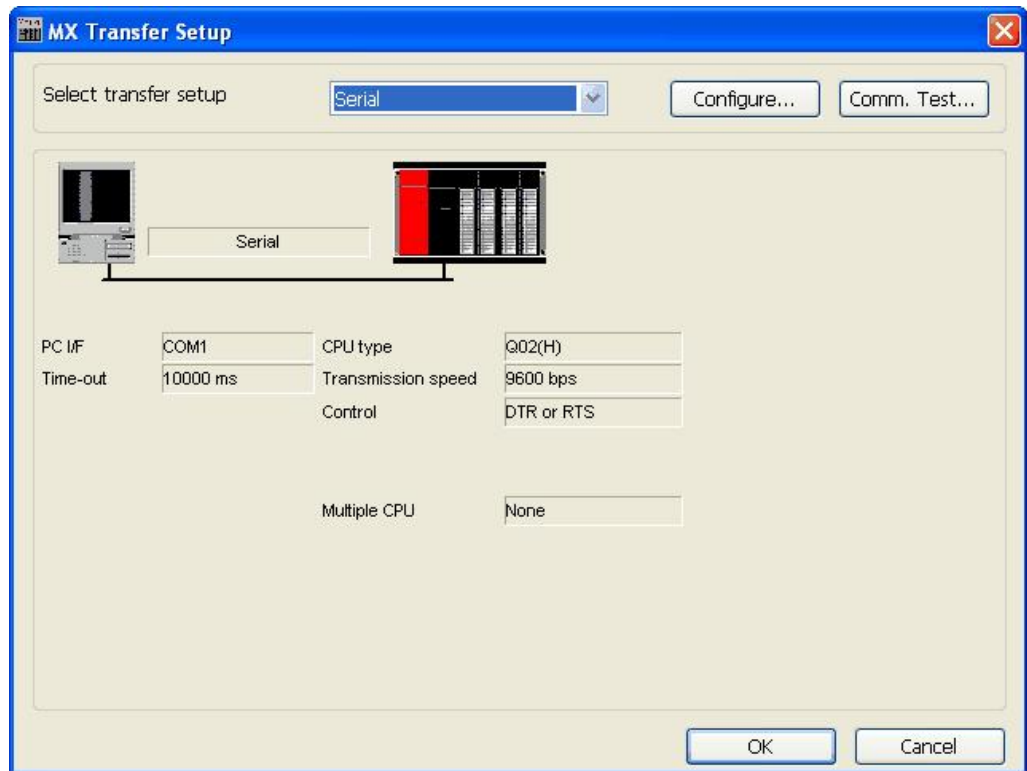
7. Click the **Finish** button to complete the communication channel setup, as shown in the figure below.



**Completing Channel Setup**



8. The **MX Transfer Setup** dialog box appears with the new transfer setup selected, as shown in the figure below. Each network node is shown graphically, with the node properties shown under the graphic. The left-hand side of the dialog lists the configuration properties for the PC side. You can double-click the image of a node (or double-click the properties list) to edit the configuration properties. The right-hand side of the dialog lists the configuration properties for the PLC device side. You can double-click the image of the PLC device (or double-click the configuration properties list) to edit the PLC device side configuration properties. You can also click the **Configure** button to return to the **Communication Setting Wizard**. Click the **OK** button to save the changes.



**MX Transfer Setup dialog (configured)**

**Note:** For complete information about channel configuration properties and the **Communication Setting Wizard**, see "Configuring the address space" in the user documentation.

## Ethernet Communication Channel

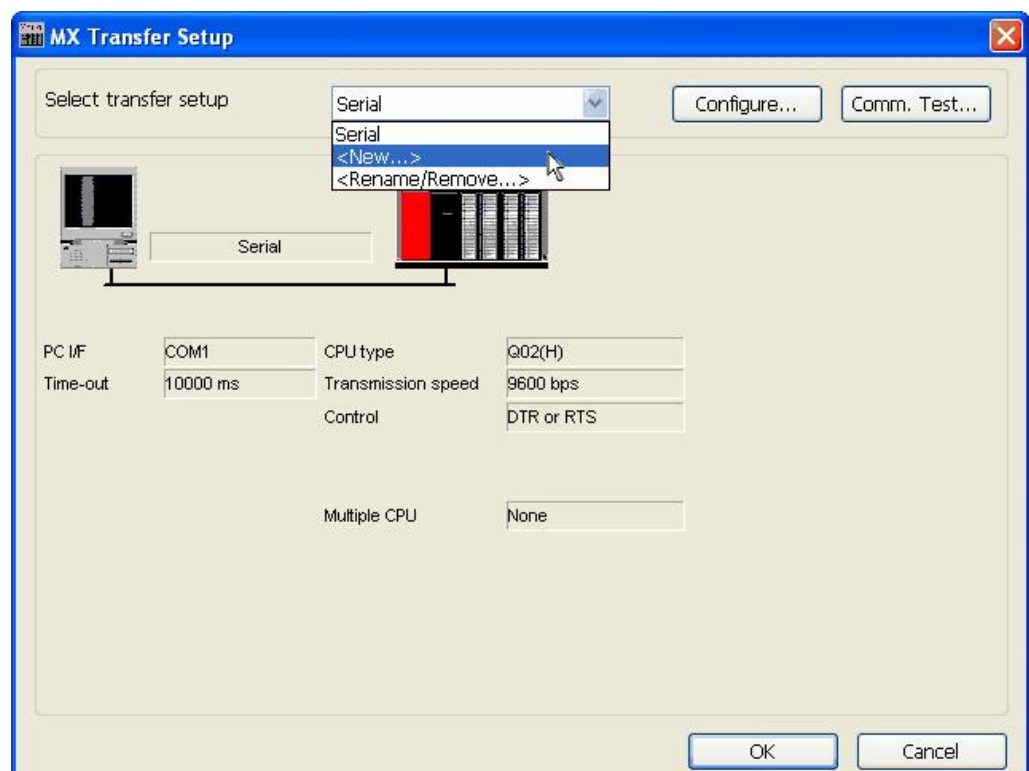
To create a new Ethernet communication path:

1. Right-click the **Address Space** tree control of the Configurator screen and select **New MX Device** from the pop-up menu, as shown in the figure below.



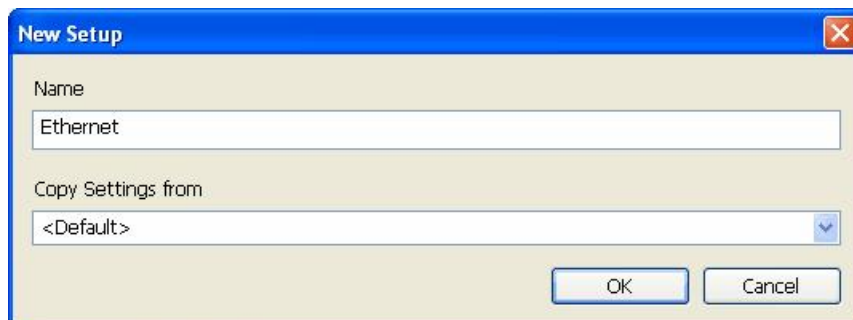
**Adding a New MX Device**

2. The **MX Transfer Setup** dialog will be shown. You can either select an existing transfer setup, or (as in the example below) select **<New...>** to create a new transfer setup.



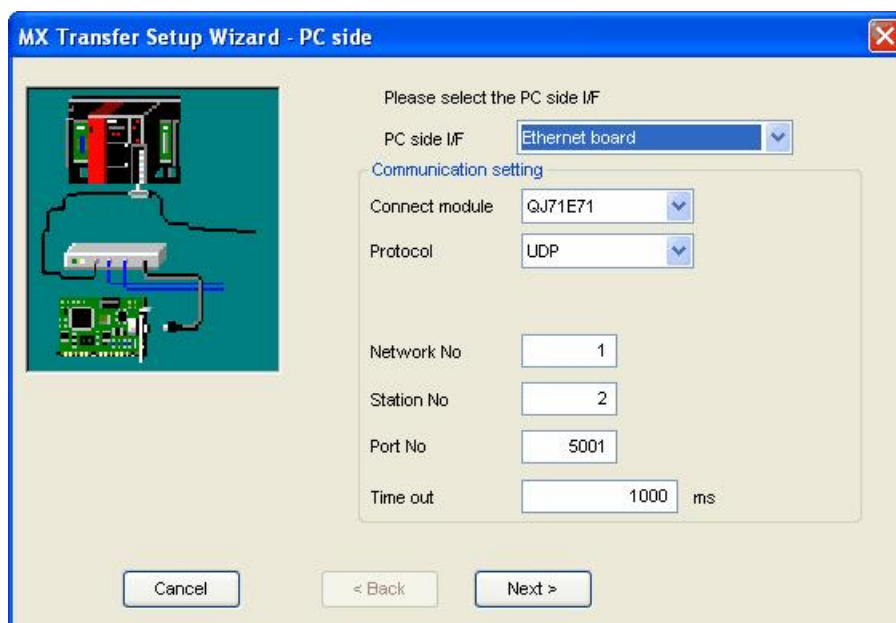
**MX Transfer Setup dialog**

3. The **New Transfer Setup** dialog will appear. Enter a name for the new transfer setup (*Ethernet* in the picture below) and select *<Default...>* as the template, then click **OK**.



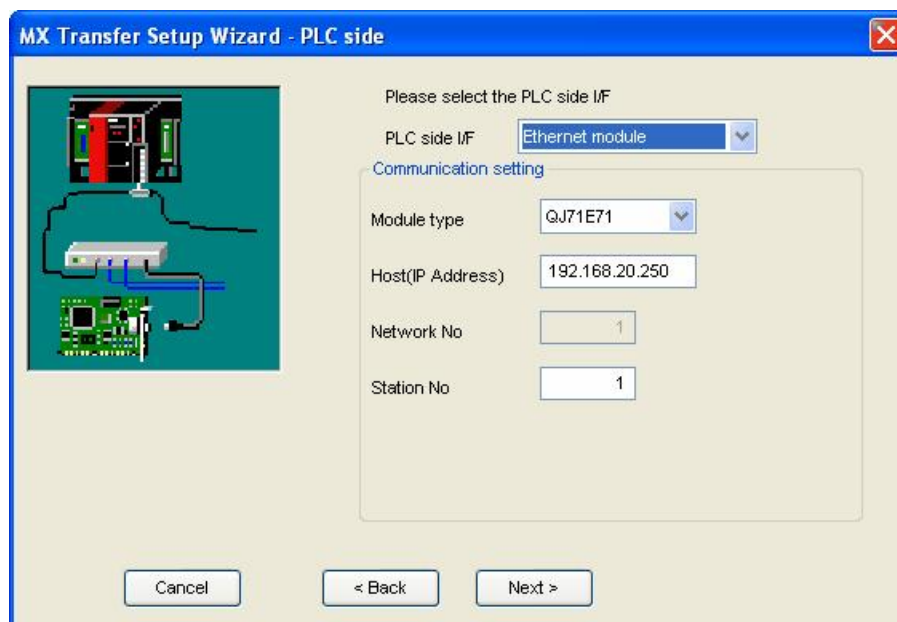
Entering a transfer setup name

4. The new transfer setup can now be edited using the **Communication Setting Wizard**, as shown in the figure below. Specify the communication type to use on the PC side, as shown in the figure below. In the **PC Side I/F** field, select the **Ethernet board** connection type from the drop-down list. Select a module number from the **Connect module** drop-down list. Click **Next** to continue.



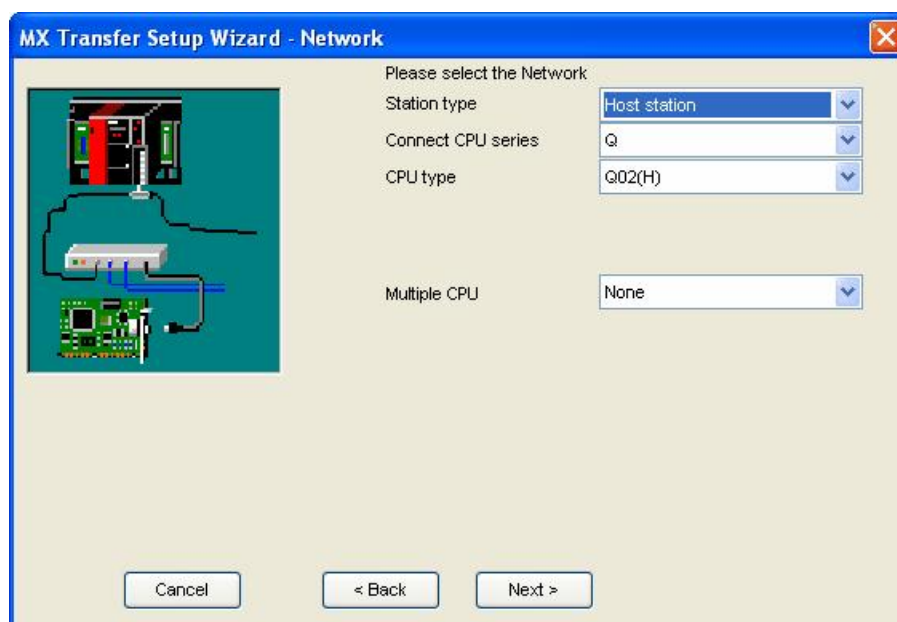
Setting up the Connection for the PC Side

5. Now you must specify the communication type to use on the PLC (device) side, as shown in the figure below. In the **PLC Side I/F** field, select **Ethernet module** from the drop-down list as the connection type to use for the selected channel. Specify a Host name and a Port number. Click **Next** to continue.



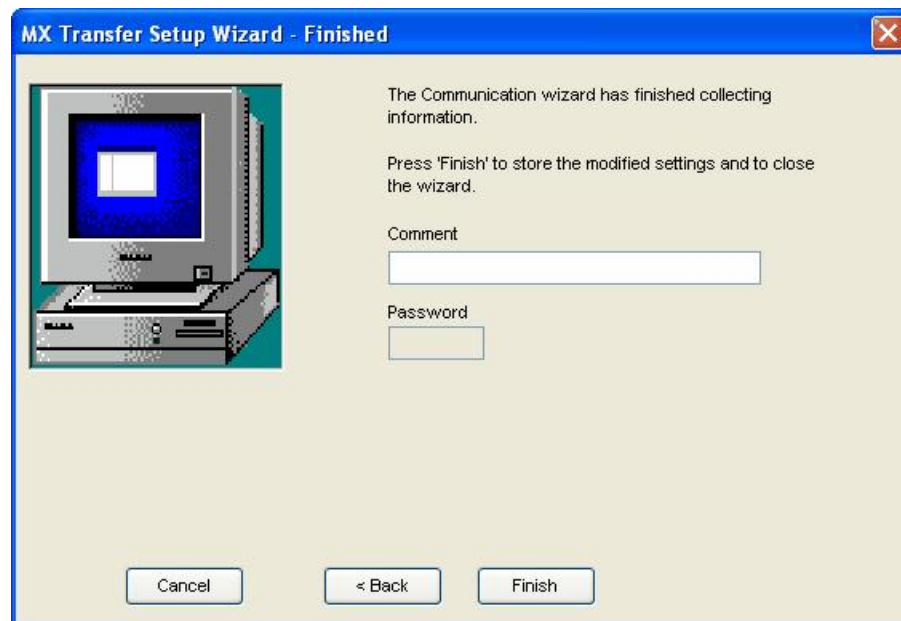
#### Setting up the Connection for the PLC Side

6. Select the network **Station Type** and **CPU Type** (if applicable) from the respective drop-down lists, as shown in the figure below. Click **Next** to continue.



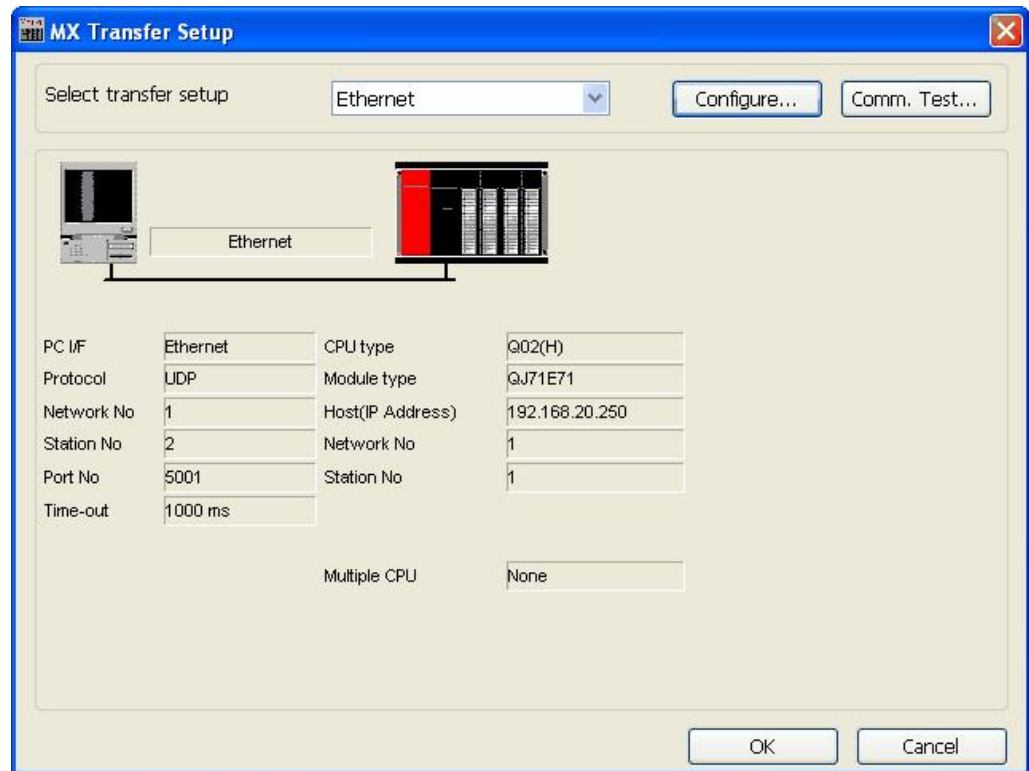
#### Configuring Network Settings

7. Click the **Finish** button to complete the communication channel setup, as shown in the figure below.



**Completing Channel Setup**

8. The **MX Transfer Setup** dialog box appears with the new transfer setup selected, as shown in the figure below. Each network node is shown graphically, with the node properties shown under the graphic. The left-hand side of the dialog lists the configuration properties for the PC side. You can double-click the image of a node (or double-click the properties list) to edit the configuration properties. The right-hand side of the dialog lists the configuration properties for the PLC device side. You can double-click the image of the PLC device (or double-click the configuration properties list) to edit the PLC device side configuration properties. You can also click the **Configure** button to return to the **Communication Setting Wizard**. Click the **OK** button to save the changes.



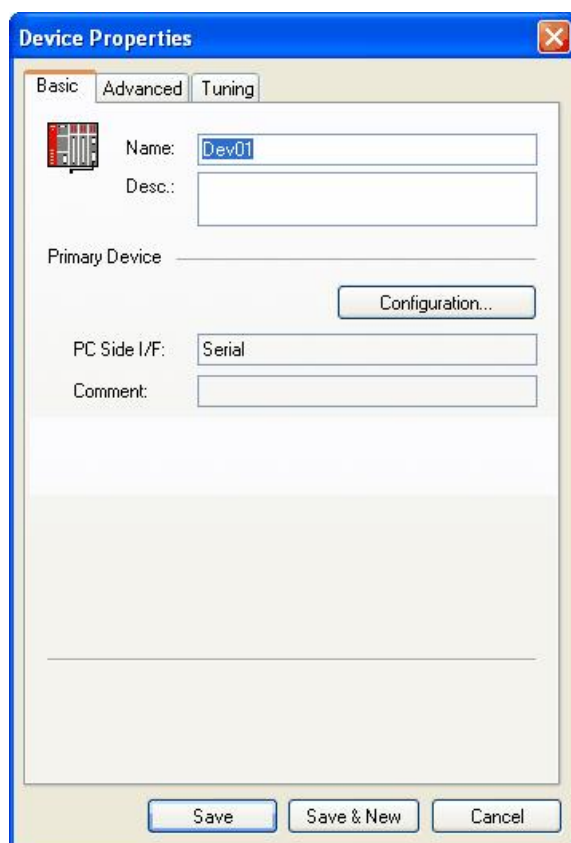
**MX Transfer Setup dialog (configured)**

**Note:** For complete information about channel configuration properties and the Communication Setting Wizard, see "Configuring the address space" in the user documentation.

### 1.7.4 Configuring a New Device

In the previous section, we used the **Communication Setting Wizard** to set up Serial and Ethernet communication channels between the PC and PLC. Once you have completed the wizard:

1. The **Basic** tab of the **Device Properties** dialog box appears, as shown in the figure below. The communication type (e.g. Serial, Ethernet, etc.) is shown in the **PC Side I/F** field, as shown in the figure below.



**Configuring Device Properties**

2. In the **Name** field, type a name for the new device, and type a description for the device (optional). To specify which connection type and which physical connection (COM) port to use for the selected device, click the **Configuration** button to launch the Communication Setting Wizard for the Primary device.

- Click on the **Advanced** tab to set the advanced parameters for the **Primary** and **Backup** devices, as shown in the figure below.

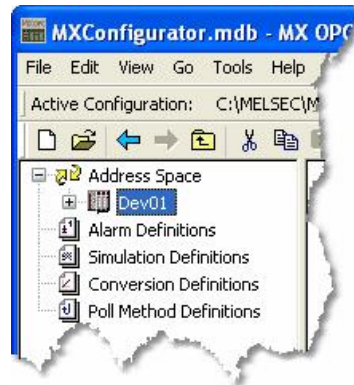
The screenshot shows the 'Device Properties' dialog box with the 'Advanced' tab selected. The dialog is divided into two main sections: 'Primary Device' and 'Backup Device'. Each section has a 'Basic' tab, an 'Advanced' tab (which is active), and a 'Tuning' tab. In the 'Primary Device' section, the 'Enable Device' checkbox is checked, and the 'Simulate' checkbox is unchecked. The 'Reply timeout' is set to 1000 ms, 'Delay time' is 0 ms, 'Number of retries' is 3, 'Merge gap' is 64 words, and 'Max count for R/W operation' is 16 words. In the 'Backup Device' section, the 'Enable Device' checkbox is also checked, and there is a 'Configuration...' button. The 'PC Side I/F' is set to '<none>' and there is a 'Comment' text box. The same parameter settings as the Primary Device are shown for the Backup Device. At the bottom of the dialog are 'Save', 'Save & New', and 'Cancel' buttons.

**Device Properties: Advanced Tab**

- Check the **Enable Device** check box to activate the device.  
**Note:** For complete information about device configuration properties, see "Configuring the address space" in the user documentation.



- When you have finished configuring the device properties, click the **Save** button. The new device appears under the **Address Space** tree control, as shown in the figure below.



**New Device Created for the Channel**

**Note:** For complete device configuration properties info, see "Configuring the address space" in the user documentation.

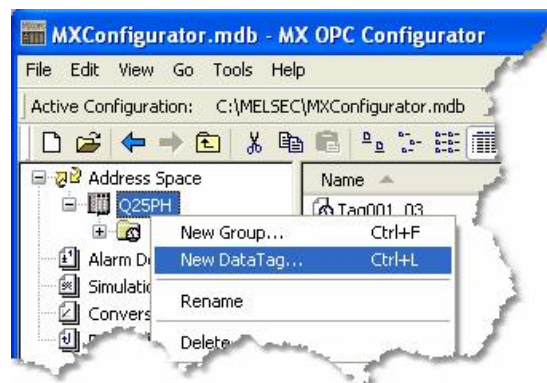
### 1.7.5 Creating Data Tags

Now you can create a new data tag that the OPC clients can request from the server.

**Note:** Data tags can be logically organized into **groups** (folders). You can configure as many folders as required. You can even create subfolders for each group to create a hierarchical organization of tags. See "Groups" in the user documentation section "Configuring the address space" for details.

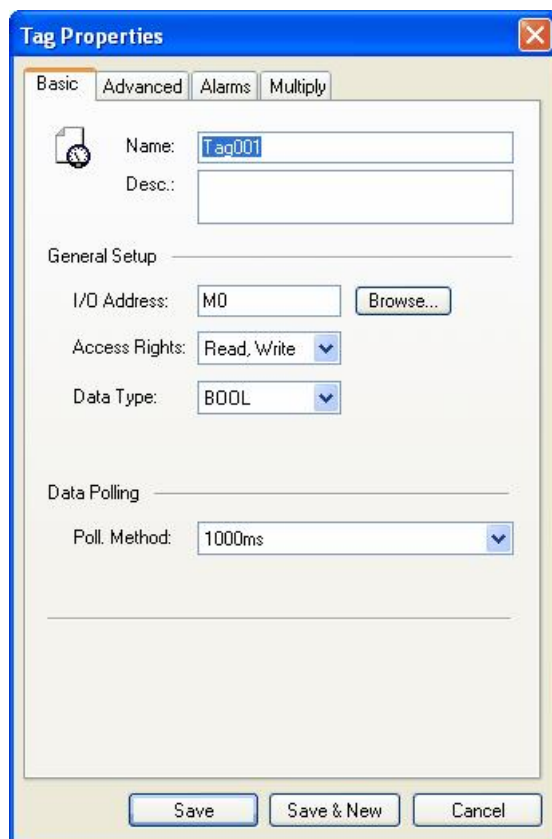
To create a new tag:

- Right-click on a device in the tree control of the Configurator screen and select **New Data Tag** from the pop-up menu, as shown in the figure below.



**Adding a New Data Tag**

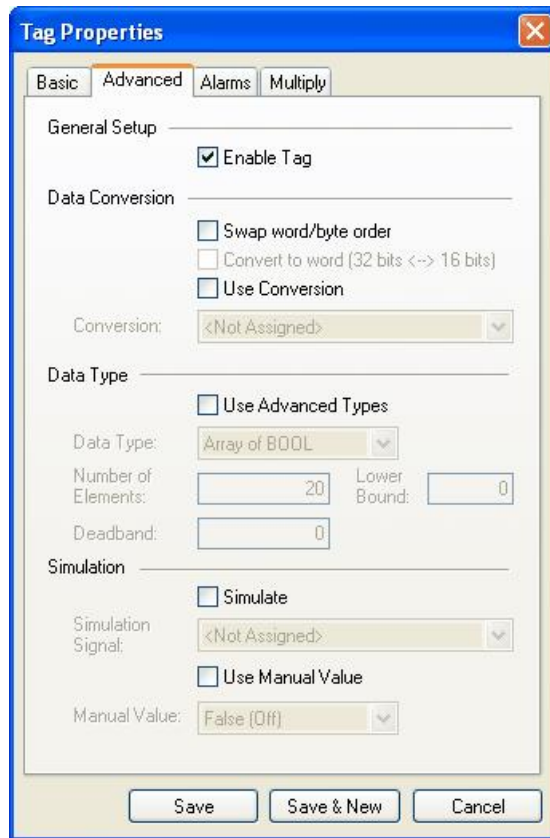
2. The **Basic** tab of the **Data Tag Properties** dialog box appears, as shown in the figure below.



**Configuring Data Tag Properties**

3. In the **Name** field, type a name for the new tag, and type a description for the tag (optional).
4. Set the parameters for the **I/O Address** and data **Access Rights**.

5. Click on the **Advanced** tab. Check the **Enable Tag** check box to activate the tag.



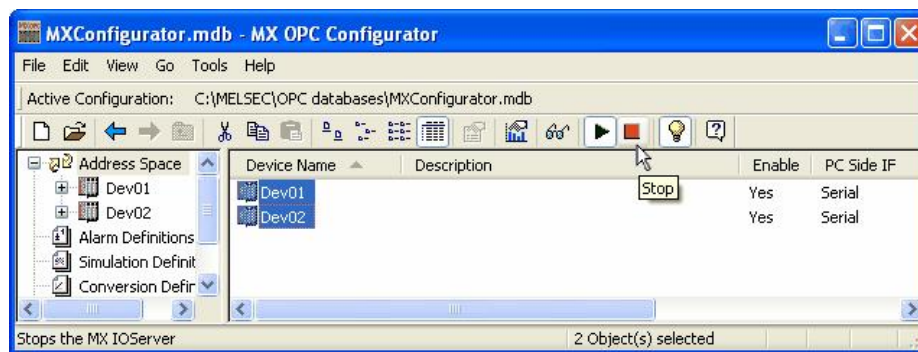
**Data Tag Properties: Advanced Tab**

6. Set the **Data Conversion** and **Data Type** parameters for the tag.
7. In the **Alarms** tab of the **Tag Properties** dialog box, you can check the **Generate Alarms** check box to make the server generate a limit alarm and/or a digital alarm based on the data item value.
8. When you have finished configuring the tag properties, click the **Save** button. The new tag appears under the **Device** tree control.

**Note:** For complete information about data tag configuration properties, see "Data tags" in the user documentation section "Configuring the address space".

### 1.7.6 Starting the MX OPC Runtime Driver

Once you are finished with your device and data tag configuration, you can start the MX OPC Runtime driver by clicking the Start button (green triangle icon) on the Standard toolbar of the MX OPC Configurator. This enables client/server communication. To stop the driver, click the Stop button (red square icon) on the Standard toolbar, as shown in the figure below.



**Starting and Stopping the Driver**

### 1.7.7 Connecting to the Server Using OPC DataSpy

#### Introduction to OPC DataSpy

With the introduction of the OPC Foundation Plug and Play communications standard called OPC Data Access, and recently the OPC Alarm and Events Specifications, a universal diagnostics and analysis utility was needed by industry. This need is filled with OPC DataSpy.

#### Features of OPC DataSpy

OPC DataSpy includes the following key standard features:

- Internet OPC over TCP/IP tag browsing.
- GenBroker Monitor.
- Simple-to-use OPC test client inspection and diagnostics utility.
- Determination of whether server is OPC compliant.
- Available as a stand-alone OPC test client.
- OPC Data Access (DA) test client.
- OPC Alarm and Events (AE) test client.
- OPC Data Access troubleshooting tool.
- OPC Alarm and Events troubleshooting tool.
- OPC-compliance testing of third-party servers.
- Determination of OPC standards for OPC servers.
- OPC loading and OPC traffic analysis.

The main concept behind the OPC DataSpy is to provide an easy-to-use OPC Test Client to test, diagnose, and troubleshoot industrial applications using the OPC Foundations, OPC Data Access, and Alarm and Events specifications.

The OPC DataSpy tree control capability consists of three main parts:

1. OPC Item Browsing
2. OPC Data and Alarm Monitors
3. GenBroker Monitor

The OPC item browser mode allows you to browse for OPC-compliant Data Access and OPC Alarm and Event servers, as well as OPC Historical Data Access servers, and to provide basic information allowing users to view, test, and troubleshoot any OPC third-party servers. The OPC monitors provide real-time monitoring of OPC server data.

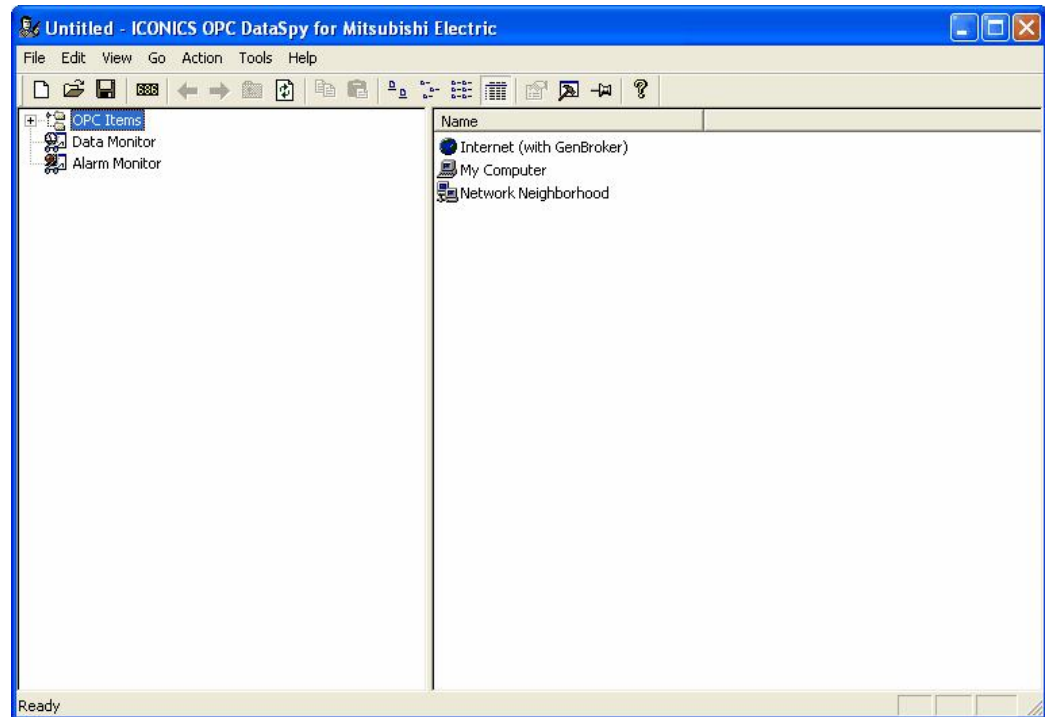
The OPC DataSpy user interface consists of the following elements:

- OPC Item browser
- OPC Data and Alarm Monitors
- Diagnostics and statistics and logging module (output window)

Once the MX OPC Runtime driver is running, you can connect to the MX OPC Server via OPC DataSpy. For this Quick Start, you will use OPC DataSpy provided with the MX OPC Server installation:

1. Open OPC DataSpy from the Windows **Start** menu by selecting **[All] Programs > MELSOFT Application > MX OPC Server 6.05 > OPC Data Spy > DataSpy.exe**. This opens OPC DataSpy, as shown in the figure below.

**Note:** The name of the program folder may vary depending on your local settings (e.g. language settings).



OPC DataSpy Screen

2. From the left navigation pane, expand the **"OPC Items"** item by clicking on the "[+]" symbol to the left of the icon. Expand the **"My Computer"** section then the **"OPC Data Access"** section then the **"Mitsubishi.MXOPC.6"** section.

Users will then see all configured devices listed underneath **"Mitsubishi.MXOPC.6"** and can browse groups and data tags accordingly.

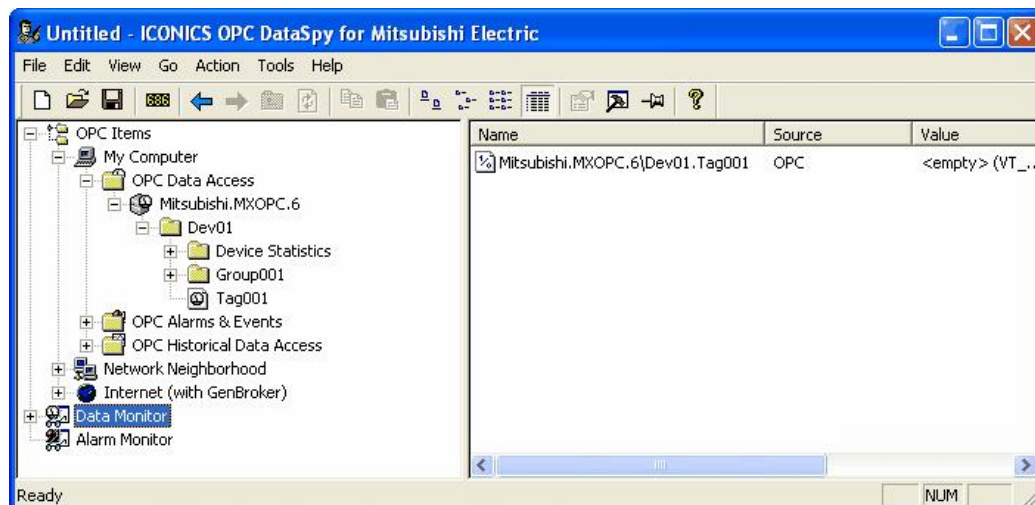
3. Right click on any selected tag listed beneath **"Mitsubishi.MXOPC.6"** and click on **"Monitor"**. Next, click on **"Data Monitor"** that is listed underneath OPC Items when that section is fully collapsed. In the right navigation pane, users will be able to see the values associated with selected tags.

4. If your client application does not support reading a single bit within a word or reading one element of an array, you may still be able to use these features by changing the name of the item that you add.

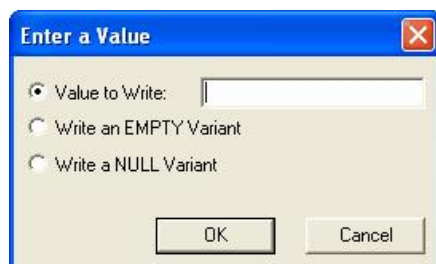
To access a bit within a word, define a new tag with an address such as D12.1 (bit 1 within the word at address D12, with bit numbering starting a 0 for the least significant bit) and set the type to BOOL. If write access is not required, a client can also address a bit within a word tag using the item syntax "tagname.bitNr" (e.g. tagname.0 for bit 0) - this is a read-only custom "OPC property" of the tag item.

A client can address a single element of an array tag using the item syntax 'arraytag[elemNr]' (e.g. arraytag[2] for element 2).

5. To Write to Tags, right-click on the tag name in the right navigation pane. The "Enter a Value" dialog pops up. Users can then enter values in the text entry box.



**Note:** If you are writing a floating point value, the period (.) character is always used as the radix character (e.g. '123.4' not '123,4'). If you are writing to an array item, the values should be separated by commas (,).



# MEMO

[illegible]



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# ***MX OPC Configurator***

## **Quick Start Guide**



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CEG LIBAN Cebaco Center/Block A Autostrade DORA <b>Lebanon-Beirut</b> Phone: +961 (0)1 / 240 445 Fax: +961 (0)1 / 240 193	<b>LEBANON</b>
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