PLCnext

PLCnext to PLCnext Data coms

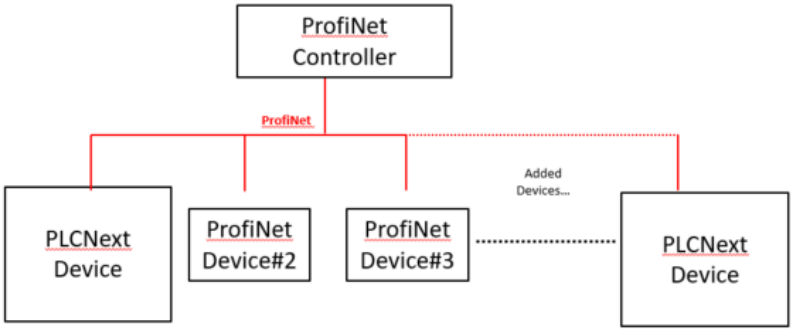
Using

ProfiNet Controller / ProfiNet Device

Setup and Configuration

1. Introduction

If it is required to Transfer Data from PLCnext to PLCnext, then this document will assist in setting up the 'Controller' and how the Data is arranged on the Controller and Device Sides. There should be only 1 ProfiNet 'Controller', but many 'Devices'.



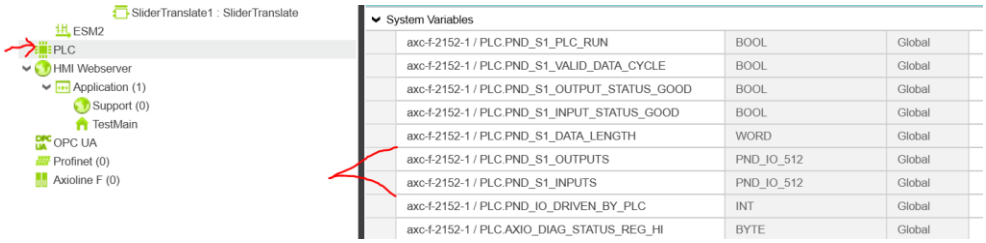
The ProfiNet Controller/Device allows 512Bytes to go from Controller to each PLCnext Device and 512Bytes to go from the PLCnext Device to the PLCnext Controller.

One thing to note… In a PLCnext to PLCnext Application, it really doesn't matter who is the Controller or Device. However, since they are configured Differently, designate one of them so that all is clear on the communications side.

2. ProfiNet ‘Device’ Setup and Configuration

The PLCnext comes out of the box with Profinet Device Activated. It sounds weird, but it is not necessary to add any functions. The Data is already defined and Ready to Go – just assign the Pre-defined Tags to Read the Inputs and Write the Outputs. Once this ‘Device’ is set up properly to a corresponding Controller (see Section 3), the Data will appear like the following:

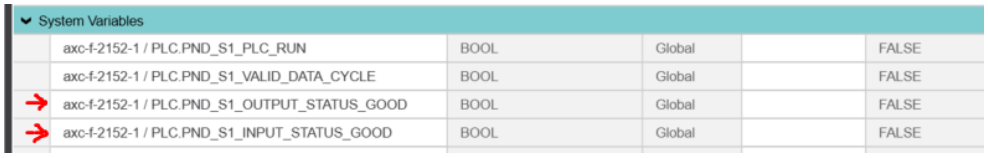
To see the Predifined – Global Bytes, see below:



The Predefined Array is PND_IO_512, so the

Input Data from the Controller is in Registers: PLC.PND_S1_INPUTS[0..511] - in Bytes
Output Data to the Controller is in Registers: PLC.PND_S1_OUTPUTS[0..511] - in Bytes

The status of the Coms network is avaiable, by using the following Tags:



That is all there is to it…define the Tags PND_S1_INPUTS and PND_S1_OUTPUTS (make “External”) and then there is direct access to all the data in the Project’s programs.

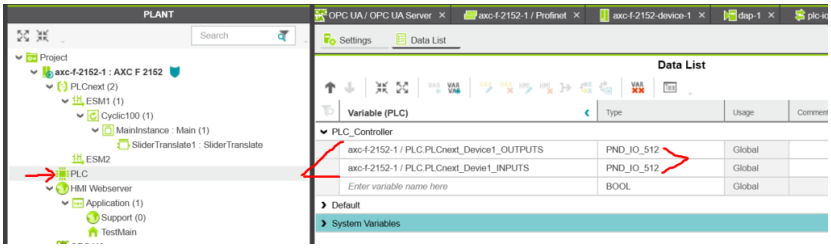
3. ProfiNet Controller Setup and Configuration

The PLCnext comes out of the Box with ProfiNet Controller Functionality, but it needs to be configured and after a few simple items – it will be ready to go.

3.1 Create Global Tags for Each PLCnext Device:

In this example, Tags for Input and Output were created with the Datatype being the same as the Device Above

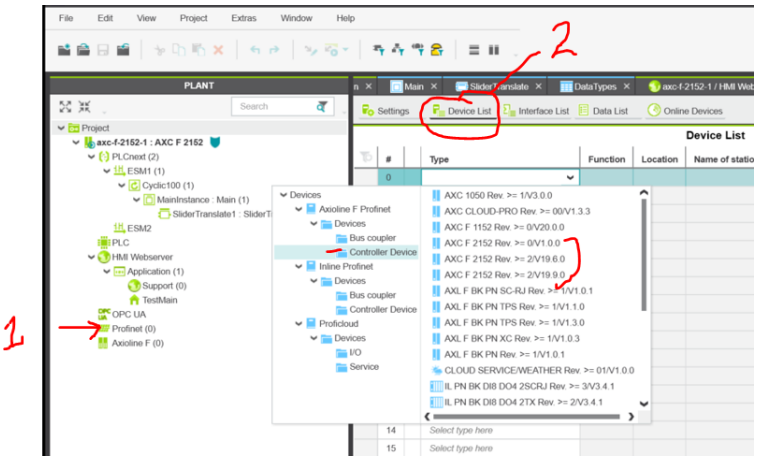
(PND_IO_512)



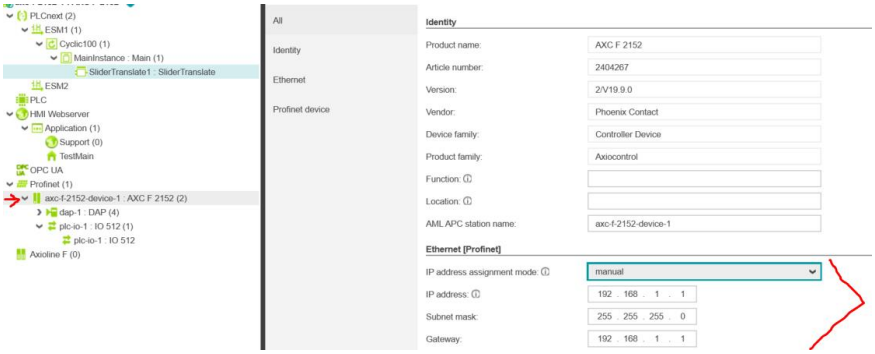
If there are multiple 'PLCnext Devices' in the network, duplicate the above for each – with unique Variable Tags.

3.2 Insert the Proper PLCnext 'Device' into the Plant side of the Controller.

NOTE: The Firmware in the 'Device' must match the Selection:



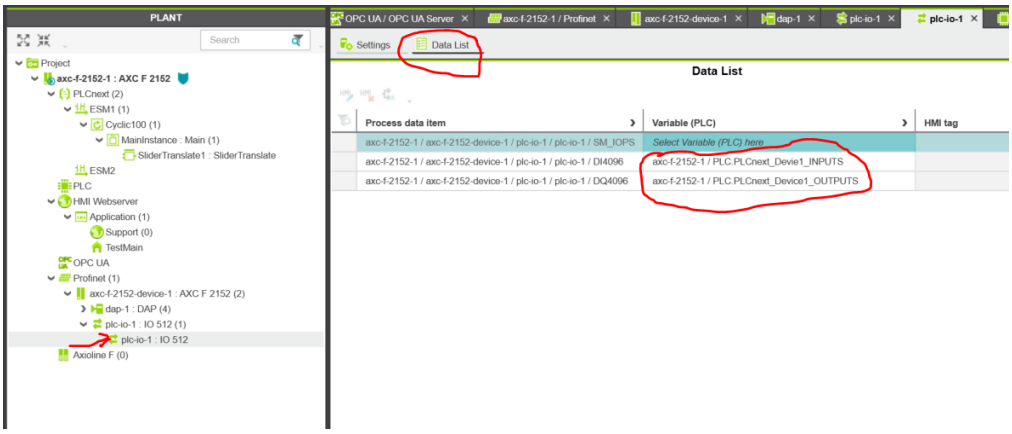
3.3 Configure the IP Addresses of each PLCNext 'Device'



3.4 Assign the PLCnext Tags to Match what was entered in Step 3.1

Now, assign the Tags Created (Step 3.1) to Send To/Receive From the Device PLC so that the information from the Device PLC will be put into the proper Register locations. Without this Step, the information received from the Device PLC will not be used.

It will be similar to the following:



If there are multiple 'PLCnext Devices' duplicate the above for each – Starting at Section 3.1.

When all of the Device Entries have been finalized and ProfiNet 'Controller' Tags are assigned to each 'Device' Communication Tags, the ProfiNet Setup is complete.

The Outputs from the Controller are directly correlated to the Inputs on the Device.
The Inputs to the Controller are directly correlated to the Outputs from the Device.