# Technical Note

# Migrating from the MVI46-MNET to the PLX3x-EIP-MBTCP

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## IMPORTANT NOTE 1

There are two nearly identical versions of the PLX3x gateway, but it is important to select the correct one based on the network topology:

- PLX31-EIP-MBTCP: Has a single ethernet port and requires that both the EtherNet/IP and the Modbus/TCP networks be on the same network subnet.

- PLX32-EIP-MBTCP: Has dual ethernet ports and requires that the EtherNet/IP and the Modbus/TCP networks be on different network subnets.
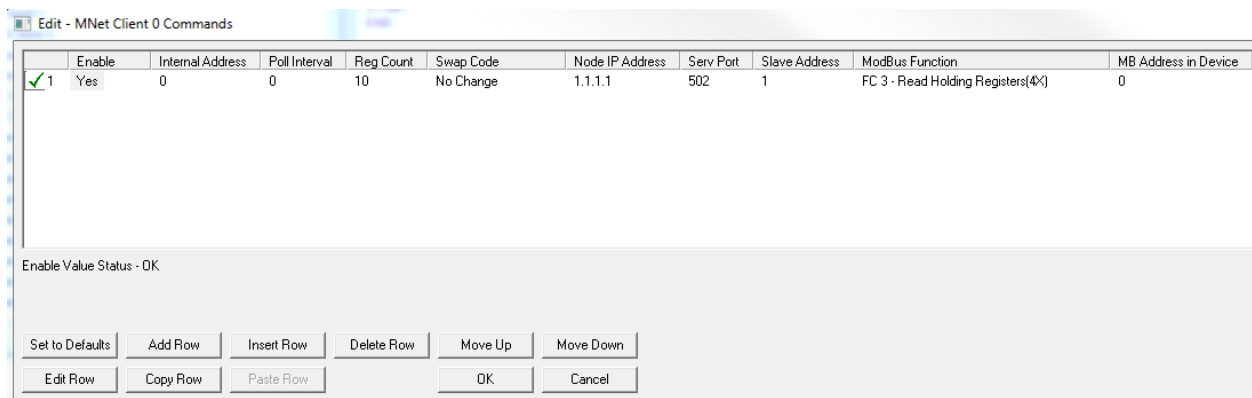
## IMPORTANT NOTE 2

Use of the PLX3x-EIP-MBTCP requires EtherNet/IP connectivity to move data with the Allen-Bradley side.
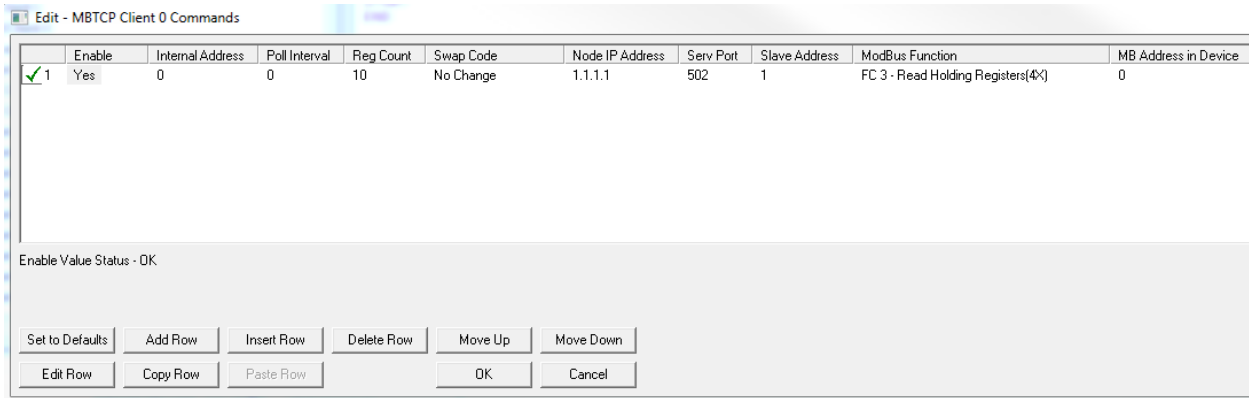
- Only the SLC 5/05 series has EtherNet/IP connectivity.

## Modbus Command Configuration
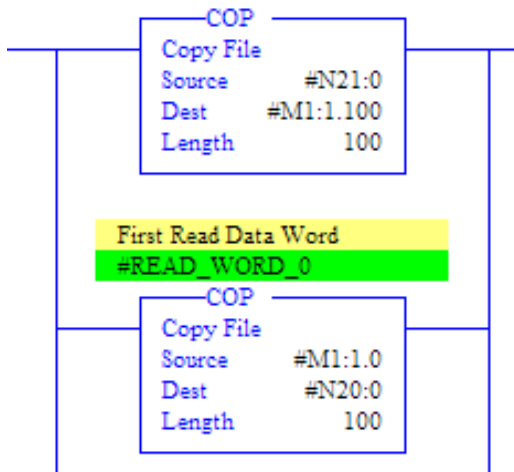
The MVI46-MNET Modbus Client Command configuration:



| | Enable | Internal Address | Poll Interval | Reg Count | Swap Code | Node IP Address | Serv Port | Slave Address | ModBus Function | MB Address in Device |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ 1 | Yes | 0 | 0 | 10 | No Change | 1.1.1.1 | 502 | 1 | FC 3 - Read Holding Registers(4X) | 0 |

Enable Value Status - OK

[Set to Defaults] [Add Row] [Insert Row] [Delete Row] [Move Up] [Move Down]
[Edit Row] [Copy Row] [Paste Row]        [OK] [Cancel]

Is identical to the PLX3x-EIP-MBTCP Modbus Client Command configuration:

| | Enable | Internal Address | Poll Interval | Reg Count | Swap Code | Node IP Address | Serv Port | Slave Address | ModBus Function | MB Address in Device |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓1 | Yes | 0 | 0 | 10 | No Change | 1.1.1.1 | 502 | 1 | FC 3 - Read Holding Registers(4X) | 0 |

Enable Value Status - OK

| Set to Defaults | Add Row | Insert Row | Delete Row | Move Up | Move Down |
|---|---|---|---|---|---|
| Edit Row | Copy Row | Paste Row | | OK | Cancel |

## Replacing backplane transfers with EtherNet/IP

You will want to identify the ladder logic in the SLC program that is responsible for transferring Modbus application data to-and-from the MVI46-MNET module. Both input and output is handled through the M1 table:

```
        COP
      Copy File
    Source      #N21:0
    Dest     #M1:1.100
    Length       100


  First Read Data Word
  #READ_WORD_0
        COP
      Copy File
    Source     #M1:1.0
    Dest       #N20:0
    Length       100
```

However, with the PLX gateway being a standalone unit, data transfer with the PLC program would have to be handled differently. You can recreate similar behavior with the EtherNet/IP Commands, and specifically, the Class 3 Client, SLC500 2 Address Field commands:
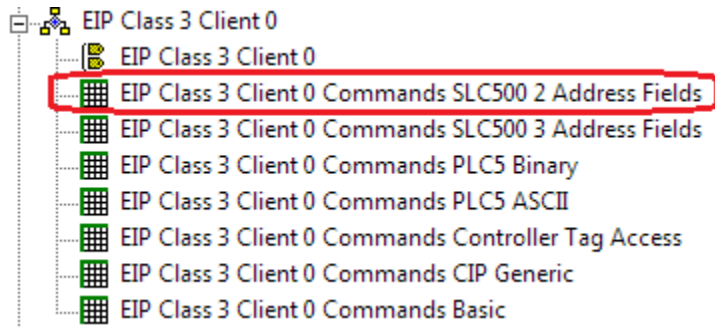
The offset into the M1 table serves as the Internal Address location within the ProSoft's memory database. Therefore, to recreate the backplane transfers shown above with Class 3 Client SLC500 2 Address Field commands, they could be configured as:
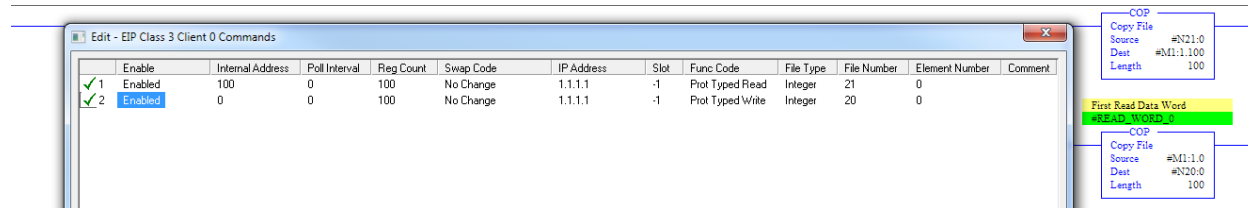


The Internal Address matches the offset into the M1 table. The Reg Count matches the Length of the COP command. Read/Write perspective is from the PLX gateway, so the Prot Typed Read command is for moving data into the PLX gateway. Therefore, the N table reference matches the first COP command which was moving data into the MVI46-MNET module. The Prot Typed Write command moves data into the PLC program and so uses the same N20 reference.

After configuring the Modbus/TCP commands identically on both products, and then configuring equivalent EtherNet/IP Class 3 Client commands as shown above, the PLX3x-EIP-MBTCP gateway should function essentially as a drop-in replacement for the MVI46-MNET module.