Technical Note

Migrating from the MVI46-MCM to the PLX31-EIP-MBS/4

Document Code: TN-PLX31EIPMBS_Migrating from MVI46-MCM_01-1906

How to Contact Us

Asia Pacific
Regional Office
+60.3.7941.2888
support.ap@prosoft-technology.com

North Asia
(China, Hong Kong)
+86.21.5187.7337
support.ap@prosoft-technology.com

Europe/Middle East/Africa
Regional Office
+33.(0)5.34.36.87.20
support.emea@prosoft-technology.com

Latin America
Regional Office
+52.222.264.1814
support.la@prosoft-technology.com

North America
Corporate Office
+1.661.716.5100
support@prosoft-technology.com

Date: June 2019
Revision: 1

Important Note

The use of the PLX31-EIP-MBS/4 module requires an EtherNet/IP connection back to the SLC.

A SLC 5/05 is required when making this connection, it's the only SLC that offers EtherNet/IP.

Configuration

The configuration of the MVI46-MCM is stored in the Data Files within the .RSS file.

The configuration of the PLX31-EIP-MBS/4 is done using the ProSoft Configuration Builder (PCB) software.
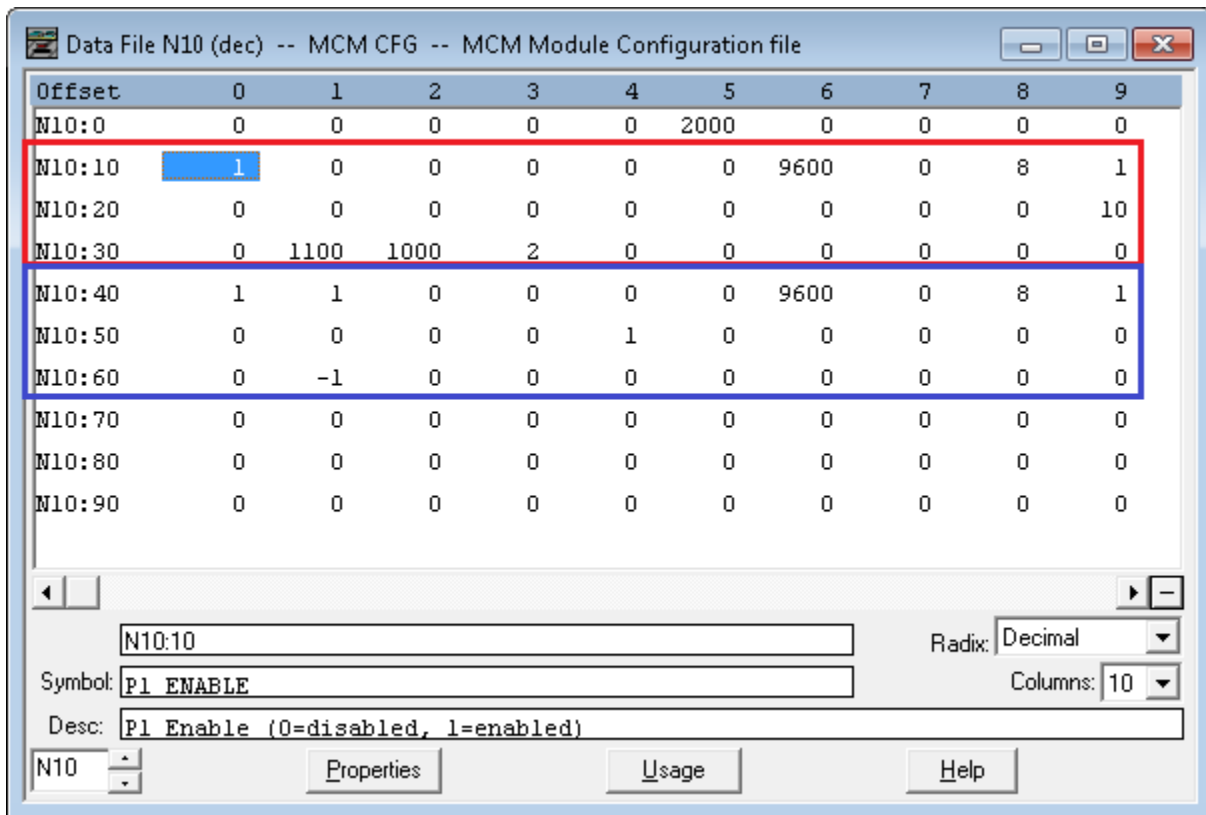
Download Link: https://www.prosoft-technology.com/Products/ProSoft-Software/ProSoft-Configuration-Builder

YouTube link to PLX31-EIP-MBS/4 training video:
https://www.youtube.com/watch?v=7_pOhn45OdA&t=7s

Configuring your port

The MVI46-MCM port configuration, going off the defaults are stored in the N10 data files.
N10:0 – N10:37 is Port 1, N10:30 – N10:67 is Port 2.

Offset	0	1	2	3	4	5	6	7	8	9
N10:0	0	0	0	0	0	2000	0	0	0	0
N10:10	1	0	0	0	0	0	9600	0	8	1
N10:20	0	0	0	0	0	0	0	0	0	10
N10:30	0	1100	1000	2	0	0	0	0	0	0
N10:40	1	1	0	0	0	0	9600	0	8	1
N10:50	0	0	0	0	1	0	0	0	0	0
N10:60	0	-1	0	0	0	0	0	0	0	0
N10:70	0	0	0	0	0	0	0	0	0	0
N10:80	0	0	0	0	0	0	0	0	0	0
N10:90	0	0	0	0	0	0	0	0	0	0

Data File N10 (dec) -- MCM CFG -- MCM Module Configuration file

N10:10
Symbol: P1 ENABLE
Desc: P1 Enable (0=disabled, 1=enabled)
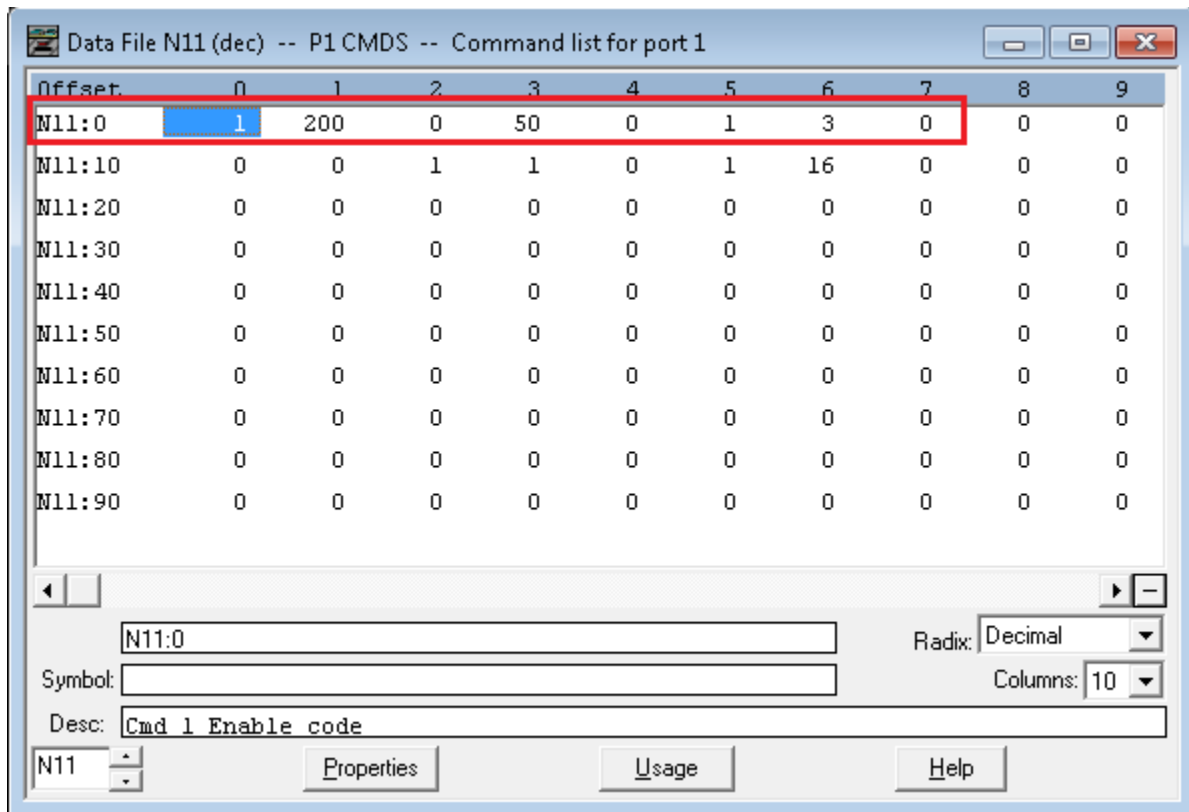Radix: Decimal
Columns: 10
N10
Properties   Usage   Help

The PLX31-EIP-MBS/4 will be setup in the ProSoft Configuration Builder.
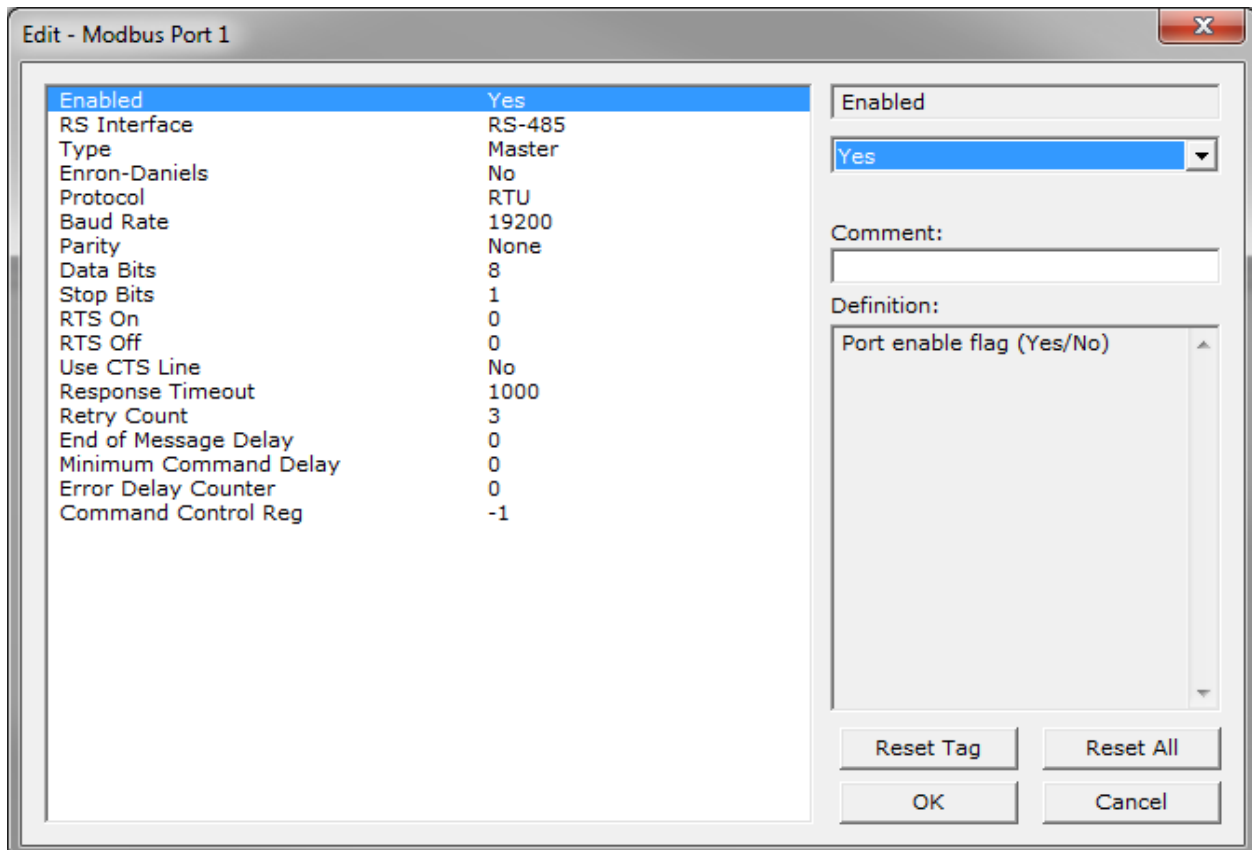
Master Command Configuration

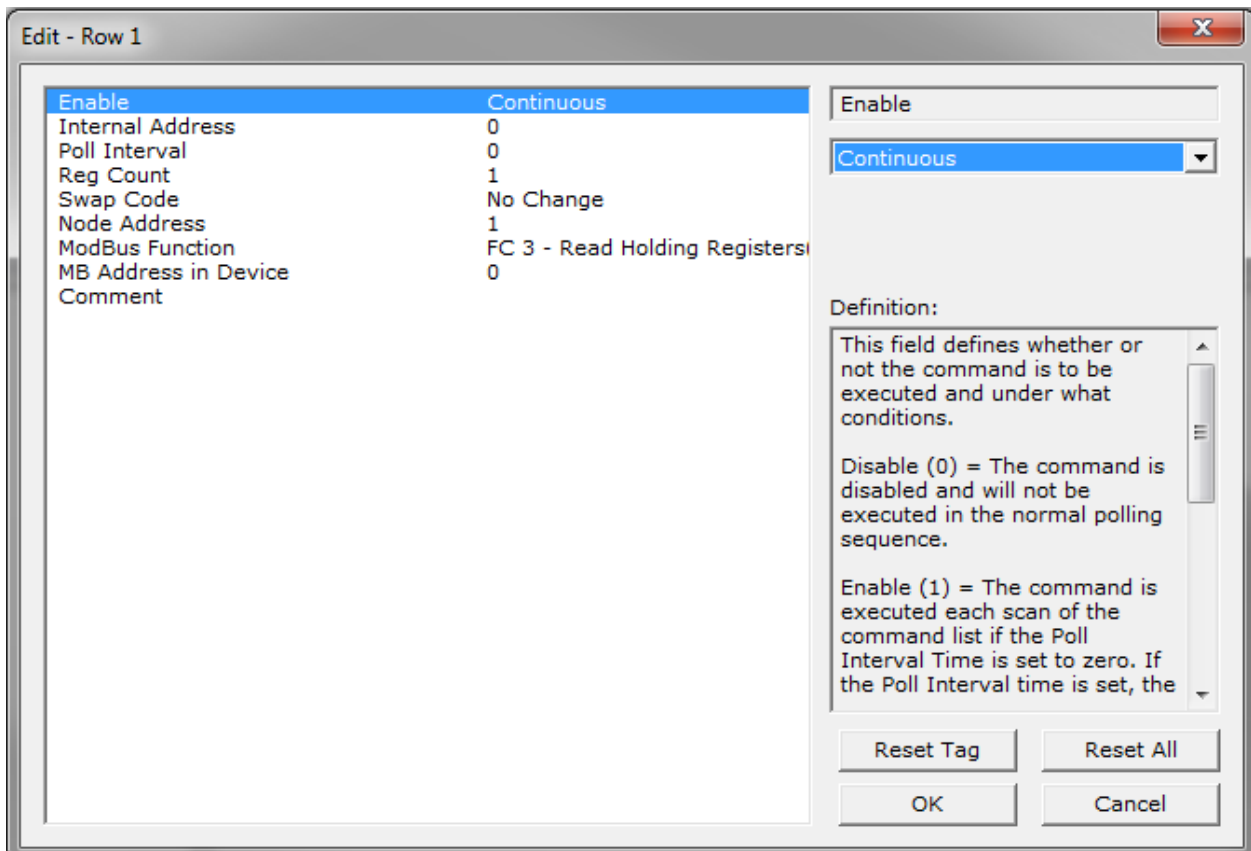The MVI46-MCM uses N11 (Port 1) and N12 (Port 2) to setup the commands.

The PLX31-EIP-MBS uses the ProSoft Configuration Builder, under the Commands section.

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-MCM module. Both input and output is handled through the M1 table:
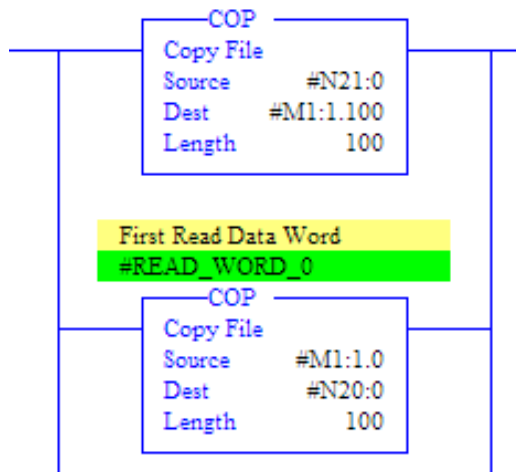
However, with the PLX gateway being a standalone unit, data transfer with the PLC program would have to be handled differently. You can recreate similar behavior with the EtherNet/IP Commands, and specifically, the Class 3 Client, SLC500 2 Address Field commands:
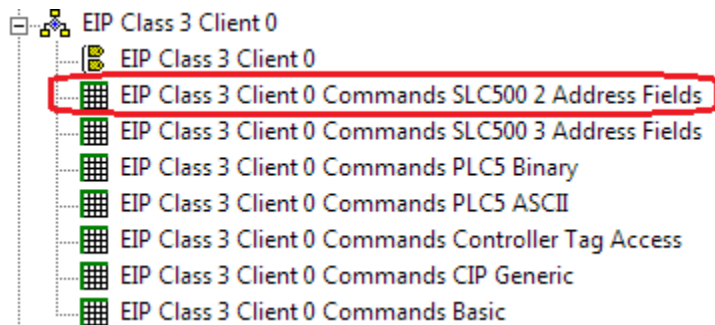
The offset into the M1 table servers as the Internal Address location within the ProSoft's memory database. Therefore, to recreate the backplane transfers shown above with Class 3 Client SLC500 2 Address Field commands, they could be configured as:
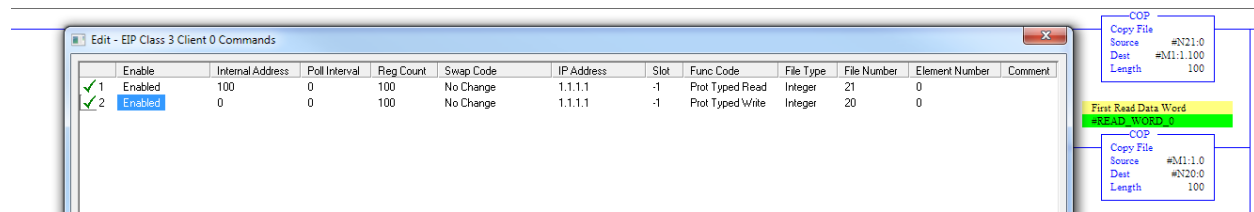
The Internal Address matches the offset into the M1 table. The Reg Count matches the Length of the COP command. Read/Write perspective is from the PLX gateway, so the Prot Typed Read command is for moving data into the PLX gateway. Therefore, the N table reference matches the first COP command which was moving data into the MVI46-MCM module. The Prot Typed Write command moves data into the PLC program and so uses the same N20 reference.

After configuring the Modbus RTU commands identically on both products, and then configuring equivalent EtherNet/IP Class 3 Client commands as shown above, the PLX3x-EIP-MBS/4 gateway should function essentially as a drop-in replacement for the MVI46-MCM module.