Creating a Client/Server Memory Transfer between Two 2572 Modules

This is a simple example application of how to start the Network Server, create a software socket connection to a remote 2572, and execute a Memory Transfer Command to the remote 2572 from a client 2572. In this example, the client 2572 is in Slot #1 of Base #0 and has a starting address of WX1. Command Status (WX2) and Control bits (WY5) for Command Slot 1 will be used for command processing.

The Start Network Server Command Block is located at V100 and sets the Client 2572’s IP address for 199.184.177.207. This is determined by the values in V106 and V107.

Example: V106 = C7B8 (hex) where C7 (hex) = 199
        B8 (hex) = 184
V107 = B1CF (hex) where B1 (hex) = 177
        CF (hex) = 207

A “Write Remote” Memory Command Block is located at V140. This command is set up to write 25 words beginning at V1000 in the local PLC to V1000 in the remote PLC. Although we have chosen a “Write Remote” Command for this example, a “Read Remote” or “Memory Exchange” Command could also be used here.

Please refer to the 2572 User Manual, Chapter 3, for a detailed description of Client Commands.

Start Network Server Command Block

<table>
<thead>
<tr>
<th>V Memory Location</th>
<th>Description</th>
<th>Hex Value</th>
<th>Decimal Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>V100</td>
<td>Command Error Word</td>
<td>0000</td>
<td>0</td>
</tr>
<tr>
<td>V101</td>
<td>Command (Start Network Server)</td>
<td>0004</td>
<td>4</td>
</tr>
<tr>
<td>V102</td>
<td>Connection Number (19291-19298)</td>
<td>4B62</td>
<td>19298</td>
</tr>
<tr>
<td>V103</td>
<td>Protocol Manager Number</td>
<td>0023</td>
<td>35</td>
</tr>
<tr>
<td>V104</td>
<td>Startup Option Bits</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V015</td>
<td>TCP Stale Socket Timeout in seconds (0 = none)</td>
<td>003C</td>
<td>60</td>
</tr>
<tr>
<td>V106</td>
<td>IP Address of this Module (High 16 bits)</td>
<td>C7B8</td>
<td>51128</td>
</tr>
<tr>
<td>V107</td>
<td>IP Address of Default Router (Low 16 Bits)</td>
<td>B1CF</td>
<td>45519</td>
</tr>
<tr>
<td>V108</td>
<td>TCP/UDP Port Number</td>
<td>05E1</td>
<td>1505</td>
</tr>
<tr>
<td>V109</td>
<td>IP Address of Default Router (High 16 bits)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V110</td>
<td>IP Address of Default Router (Low 16 bits)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V111</td>
<td>Max Number of TCP Connections (0 = default = 8)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V112</td>
<td>Subnet Mask (High 16 bits)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V113</td>
<td>Subnet Mask (Low 16 bits)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V114</td>
<td>Unused - Set to 0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V115</td>
<td>Unused - Set to 0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
The following ladder logic example is the minimum logic required to control command execution. This logic initiates a Start Network Server Command in the event that WX1.3 (network config bit) is turned ON by the module. A Create Socket Command is then initiated to the remote 2572. Once the socket is established, a Write Remote Memory Command is executed continuously.

Please refer to the 2572 User Manual, Appendix D, for a detailed description of the PLC interface and command processing.
LDC

A: WY5
N=100

Load pointer to the Start Network Server command block if Net Config bit is set

C1 (SET)
C12 (RST)
C13 (RST)
C14 (RST)
C15 (RST)
C19 (SET)

LDC

A: WY5
N=120

Load pointer to Create Socket command if Start Server complete or Memory Transfer error word is equal to 166 (Connection not active error)

V140 + 166 = INT

C1 (RST)
C15 (RST)
C19 (SET)

CX1.3

Lock out rung 1 after first scan

C2

CX2.3

Command cycle started

C14 (SET)
C15 (RST)

C14
WY2.3

Command cycle complete

C15 (SET)
C14 (RST)

C1
C15

CX1.3

Load pointer to Create Socket command if Start Server complete or Memory Transfer error word is equal to 166 (Connection not active error)
The following rung sets the command trigger bits in WY4, and holds them ON until the module cmd busy bit, WX2.3, is turned ON by the module. Also, the command error words of the Create Socket and the Memory Transfer commands are reset to zero.

If the Cmd Err bit is set, turn Err bit ON to clear error.