Using the CN2610 for broadcasting serial data to other serial devices

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In this Technical Note, we cover the following topics:

1. Broadcasting serial data to other serial devices
2. Configuring the CN2610 for broadcasting serial data using UDP operation

1. Broadcasting serial data to other serial devices

In a MOXA device server project, the client needed to allow one serial device to broadcast information to multiple serial devices. A simple solution that did not require programming was preferred. With a few steps of configuration, the CN2610 provided simple serial broadcasting from one device to all other attached devices. The diagram below shows the type of architecture that was used for this project:

In this paper, we will explain how to configure the CN2610 to allow serial port broadcasting to other serial devices. This may be used as a starting reference point for other similar systems.

The following related products are also suitable for this kind of application: CN2510-16, CN2610-16, NPort 5610-16

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2. *Configuring the CN2610 for broadcasting serial data using UDP operation*

2.1　Telnet to the CN2610's console.

2.2　From the main menu, select [Port]→ [Mode].

2.3　For each port listed, use the arrow and Enter keys to change the Application to Raw UDP.

2.4　For serials port 1, use the arrow keys to enter "Description/more setting". For "Dest. IP addr 1" through "Dest. IP addr 4", enter the CN2610's IP address with UDP port numbers 4002 through 4005. This configures the CN2610 to broadcast data from port 1 to ports 2 through 5.

```
Telnet 192.168.12.164                                                    _|□|×|
CN2610-16                          CN2610-16_57   V2.1
------------------------------------------------------------------------------
[Mode] Line   mOdem   Welcome_MSG   Quit
 Examine/modify the operation mode of async ports

 ESC: back to menu     Enter: select


 Port  Applicatio+------------------------------------------------------------+
  01    [Raw UDP  :                    Begin           End            Port   :
  02    [Raw UDP  : (serial to LAN>                                          :
  03    [Raw UDP  : Dest. IP addr 1  [192.168.12.164 ][              ][4002 ] :
  04    [Raw UDP  : Dest. IP addr 2  [192.168.12.164 ][              ][4003 ] :
  05    [Raw UDP  : Dest. IP addr 3  [192.168.12.164 ][              ][4004 ] :
  06    [Raw UDP  : Dest. IP addr 4  [192.168.12.164 ][              ][4005_] :
  07    [Raw UDP  : <LAN to serial>                                          :
  08    [Raw UDP  : Src. IP addr 1   [               ][              ]        :
  09    [Raw UDP  : Src. IP addr 2   [               ][              ]        :
  10    [Raw UDP  : Src. IP addr 3   [               ][              ]        :
  11    [Raw UDP  : Src. IP addr 4   [               ][              ]        :
  12    [Raw UDP  :                                                          :
  13    [Raw UDP  : Local Listen Port                : [4001 ]                :
  14    [Raw UDP  : Delimiter 1 <Hex>                : [   ]                  :
  15    [Raw UDP  : Delimiter 2 <Hex>                : [   ]                  :
  16    [Raw UDP  : Force transmit <ms>              : [     ]                :
            +------------------------------------------------------------+
```

2.5　Since UDP broadcasting is limited to 4 destinations, use an RJ45 null-modem cable to connect serial ports 5 and 6. This allows broadcasting to be chained to additional devices.

2.6　For serial port 6, use the arrow keys to enter "Description/more setting". For "Dest. IP addr 1" through "Dest. IP addr 4", enter the CN2610's IP address with UDP port numbers 4007 through 4010. This configures the CN2610 to broadcast data from port 6 to ports 7 through 10. Since port 6 is receiving data through the null modem cable that was broadcast from port 1, broadcasting has effectively been extended to 7 devices instead of 4. This chain can be extended further using the same approach.

2.7   Select [Line] from the main menu and configure each port's communication parameters according to the RS-232 device that will be attached.

2.8   After configuration is completed, information received by port 1 on the CN2610 is automatically broadcast to devices installed at ports 2, 3, 4, 7, 8, 9, and 10. The following diagram shows how devices are attached in this example.