



Applied Systems Engineering, Inc.

1671 Dell Avenue, Suite 200 • Campbell, CA 95008 • Phone: (408) 364-0500 FAX: (408) 364-0500
e-mail: products@applsyseng.com • WEB: <http://www.applsyseng.com>

SPT4-NET Configuration for Communication to a DNP LAN RTU

27 February 2003

The following steps describe how to configure the SPT4-NET database for communication to a DNP3 LAN/WAN RTU.

1. If you have not yet set the IP address for the SPT4-NET box, read instructions for “Setting the SPT4-NET IP Address”.
2. Right-click the *To RTU* node, select *Add Protocol* ►, and *DNP 3.0*
3. Highlight the *DNP 3.0* node. The default source address is 0 for messages sent from the SPT4-NET. A different source address, if required, can be entered into the *PrimaryAddress* property
4. Right-click on the *DNP 3.0* node, select *Add Line* ►, and Network Adaptor
5. Highlight the *Network Protocol 20000* node. Network communication default is TCP/IP. For UDP, change the *UDP* property to *True*
6. Right-click the *Network Protocol 20000* node and select *Add Device*
7. Highlight the *Device 0* node and set the following properties.

Id – RTU’s DNP3 address (destination address in SPT4-NET messages)
IPAddress – RTU’s IP address

In most cases, default values should remain for all other properties

8. Right-click the *Device* node, select *Add Object* ►, and one of the DNP3 object types:

<i>Binary Input</i>	1-bit digital inputs
<i>Relay Block</i>	Digital outputs, both paired and unpaired
<i>Counter</i>	Pulse accumulator current values
<i>Frozen Counter</i>	Pulse accumulator frozen values. Of the two counter point types, only select types compatible with the associated <i>From Master</i> protocol
<i>Analog Input</i>	Analog input
<i>Frozen Analog Input</i>	Rarely used
<i>Analog Output Status</i>	Analog input points reporting status of an associated analog output point
<i>Analog Output</i>	Analog output

9. Right-click each object created in step 7, select *Add Points*, and enter the RTU point IDs. DNP3 point IDs are sequential starting with 0. If, for example your RTU has 16 points of a given type, point IDs will be 0 to 15.
10. Repeat steps 7 and 8 until all points are defined
11. Right-click the *Device* node, select *Add Request* ►, and *Class Change Poll*
12. Right-click the *Device* node, select *Add Request* ►, and *Class Static Poll*
13. Highlight the *Class Static Poll* node and change the *Frequency* property to 10000.

The final steps, steps 10, 11, and 12, define a polling logic requesting all point changes every 2 seconds, and a refresh of all static data every 10 seconds. Either request period can be changed by setting its *Frequency* property to another value (in milliseconds). Other polling strategies can be configured by selecting other request types.