Setup SR1 to Connect to a Remote PC over Ethernet

SR1 provides a method for communication to a remote computer using the VXI-11 protocol over Ethernet.

To perform this test, you need the following:

- An SR1 connected to your local area network with a suitable Ethernet cable
- A Windows PC connected to your local area network with a suitable Ethernet cable
- The PC must have NI MAX and VISA drivers installed. To obtain the right software and drivers, consult National Instruments webpage at ni.com.

SR1 TCP/IP Setup

After you have started your SR1, you should configure its local area network properties.

Follow these steps to set those properties:

On SR1:

- In the Main Menu, select Tools -> Networking -> Network Setup
- In the new window, double click on 'Local Area Connection'
- In the new window, click the 'Properties' button
- Scroll down the list and click to select 'Internet Protocol (TCP/IP)'
- Click on the 'Properties' button

At this point, if your local area network has a DHCP server which assigns IP addresses, you can try the following:

- Click on the 'Obtain IP Address Automatically' radio button
- Click on the 'Obtain DNS Server Address Automatically' radio button
- Click 'OK'

After about one minute, the DHCP server should assign an IP address to your SR1. You can find the IP address here:

- Click on the window titled 'Local Area Connection'. It should already be open from the previous steps.
- Click on the 'Support' tab.

- Copy down the IP address that has been assigned.

If DHCP service is not available, then you must assign an IP manually:

- Click on the Local Area Connection Properties' Window. It should already be open from the previous steps.
- From the list, select 'Internet Protocol (TCP/IP)'
- Click on the 'Properties' button
- Click on the 'Use the following IP Address' radio button
- Click on the 'Use the following DNS Server addresses' radio button
- Enter an IP address, subnet mask, gateway and DNS Server addresses that are suitable and are defined for your local network. You should contact your network administrator for those values.
- Click 'OK'

Enable VXI-11 on SR1

Now we will enable the VXI-11 interface on your SR1:

- From the SR1 application, select from the Main Menu: Tools -> Preferences
- Click the Remote tab on the top of the window.
- On the bottom of that window tab, click on the VXI-11 tab
- Set the core port to 1000, and the abort port to 1001.
- Click on the 'On' Checkbox and make sure the box is checked.

VXI-11 on the SR1 should now be enabled.

Define the VXI-11 interface on your remote PC.

Moving to the remote PC, we will now define the device in the NI MAX program:

- Start NI MAX
- In the tree view on the left side of the panel, click on the arrow next to 'My System' to expand the entry.
- Right click on 'Devices and Interfaces' and select 'Create New...'
- In the pop up window, click on 'VISA TCP/IP Interface'
- Click 'Next'
- On the next screen, click on the 'Manual Entry of LAN Instrument' radio button
- Click 'Next'
- On the next screen, click on the 'Manually specify address information of LAN instrument' radio button
- Click 'Next'

- On the next screen, enter the IP address
- For LAN Device Name, type 'inst0'
- Click 'Validate' to verify the connection to your SR1 instrument
- Click 'Next'
- Enter an alias name if you wish
- Click 'Finish'

Your SR1 instrument should show up in the tree view under Network Devices and should now work over VXI-11.

Testing your VXI-11 connection:

- Right-click on the SR1 item and selecting 'Open VISA Test Panel'
- Once there, click on the 'Input/Output' button on top.
- Then press the 'Query' button to send and receive the response to a *idn? command.