

Configuring NI VISA for Linux and the PNA for SCPI via LAN

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General Notes

- Configuration was installed on a Ubuntu 5.10 Linux System
- National Instruments VISA for Linux version 3.4
- PNA model E8364B, running version A.04.87.01 firmware

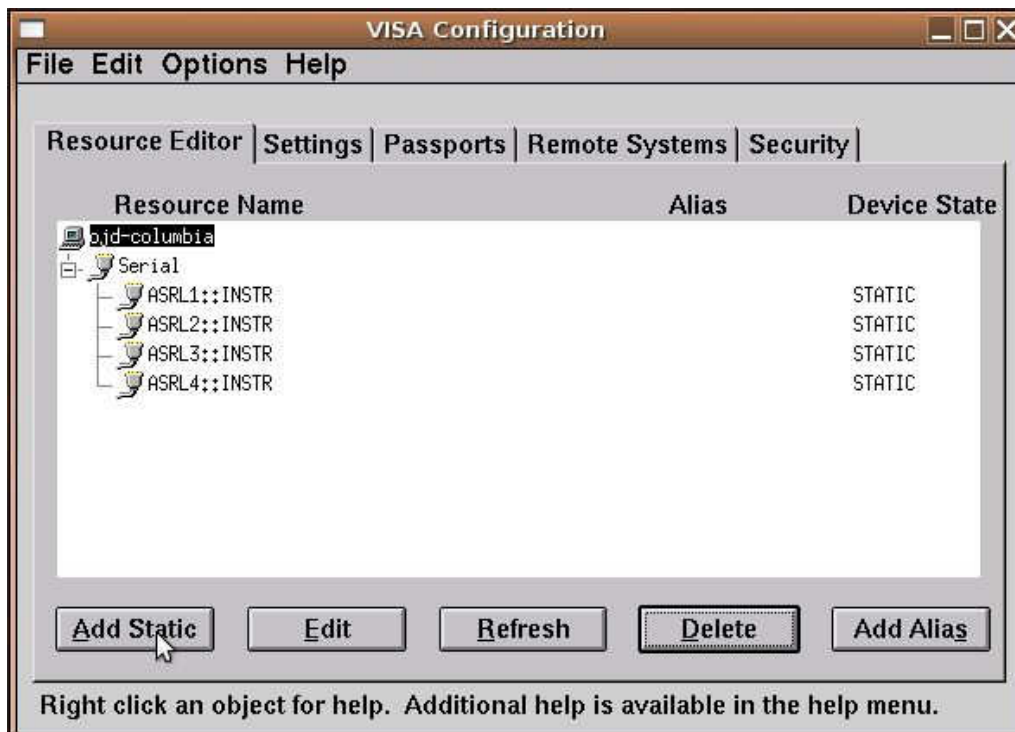
Section 1: Configuring NI VISA for Linux

The images and steps below outline the steps necessary to configure the National Instruments libraries to communicate with the Agilent PNA via SCPI – LAN. The configuration is based upon a new installation utilizing TCP/IP.

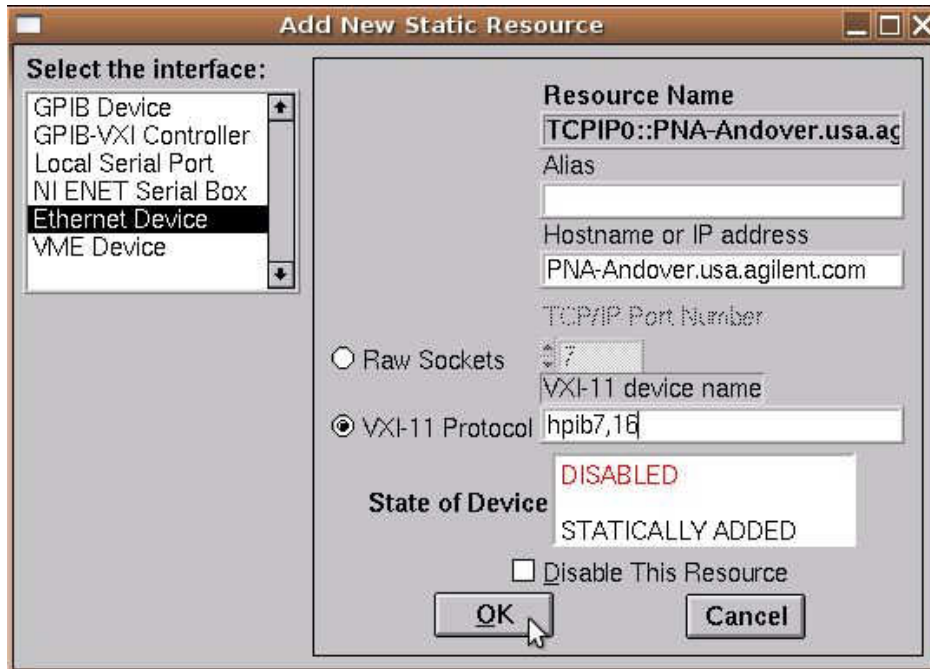
To configure the interface launch the VISA Configuration utility from a terminal window using the ‘visaconf’ (/usr/local/bin/vxipnp/linux/Nlvisa/visaconf) command.



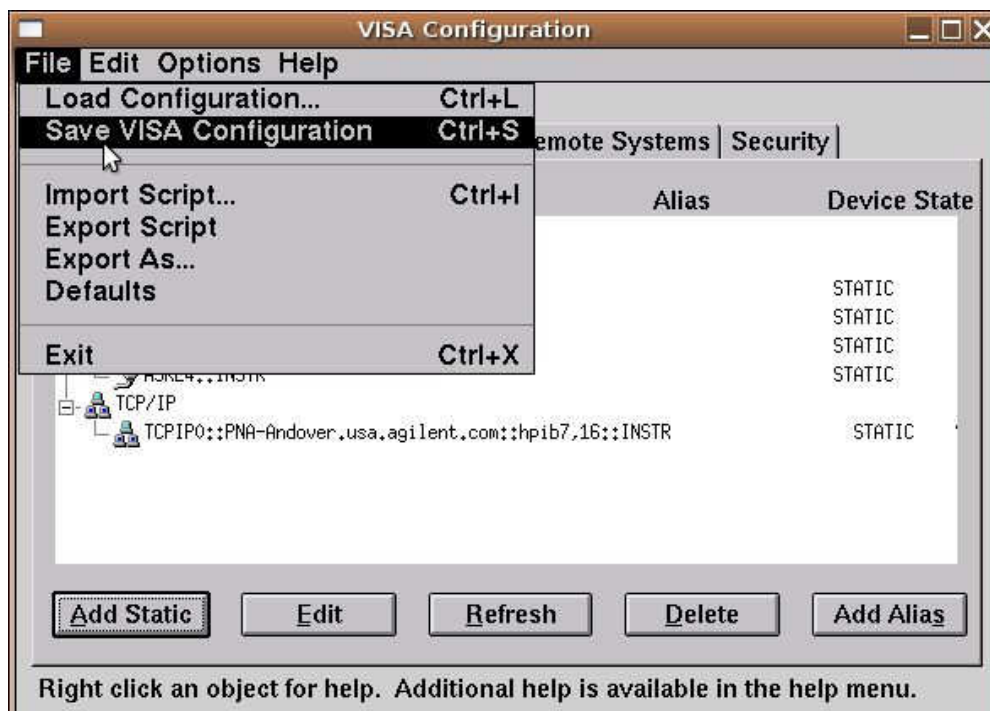
Select “Add Static” from the “Resource Editor” tab



- On the “Add New Static Resource” screen, select “Ethernet Device” under the “Select the interface:” header.
- Enter the hostname or IP address in the designated location
- Select the VXI-11 Protocol radio button and enter “hpib7,16” as the value for this setting. The “hpib7,16” is made of two parts, the “hpib7” is the SICL interface name for the Internal Instrument on the PNA and the 16 is the SICL address for the Internal Instrument on the PNA.
- Then click “OK”



A TCP/IP device will appear on the screen with parameters matching those entered in the configuration window. Then click File->Save VISA Configuration to save the new configuration.



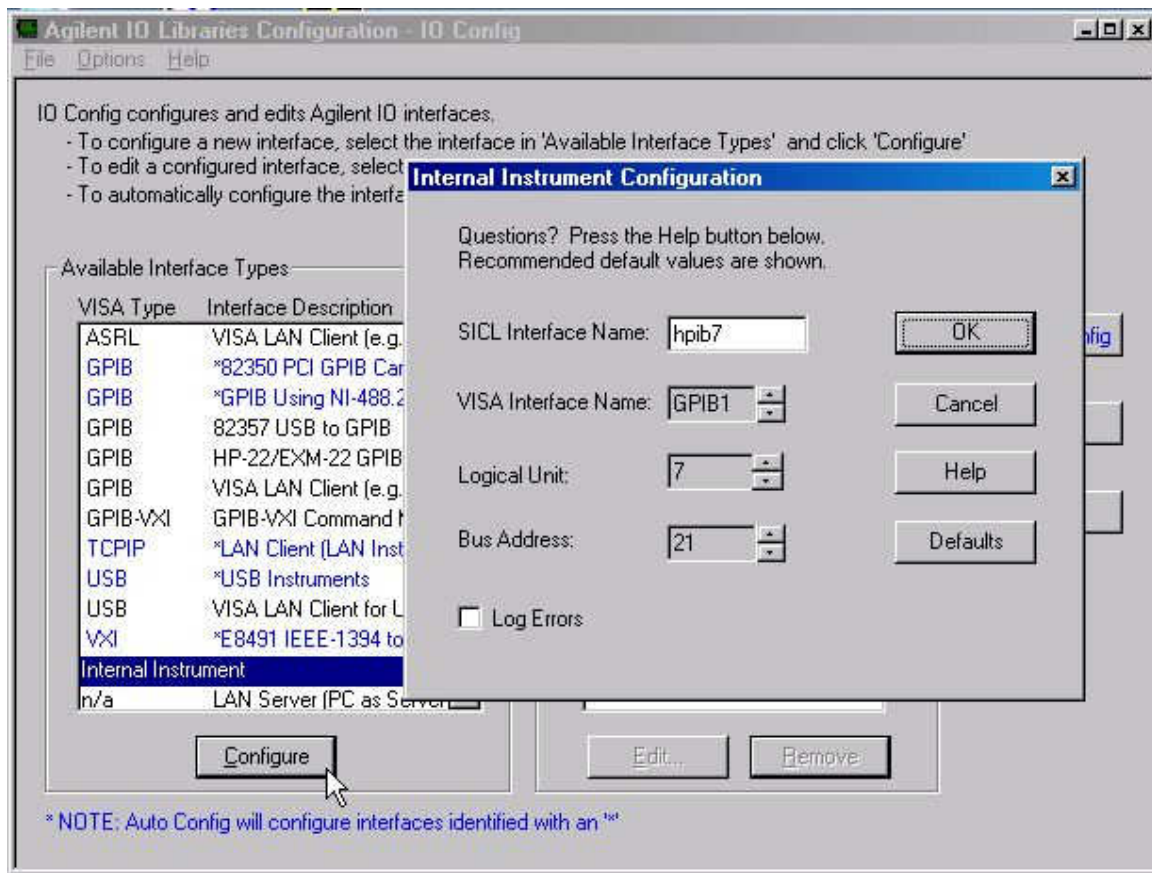
Section 2: Configuring the PNA for SICL-LAN Communication

Step 1:

- On the PNA (if the application is maximized), select “View->Minimize Application”
- From the Start menu, select “Start->Programs->Agilent IO Libraries->IO Config”
- Looking under the “Configured Interfaces” section on the IO Config window, is a interface with the SICL name of “hplib7” present? If so, go to step 3, if not continue to step 2.

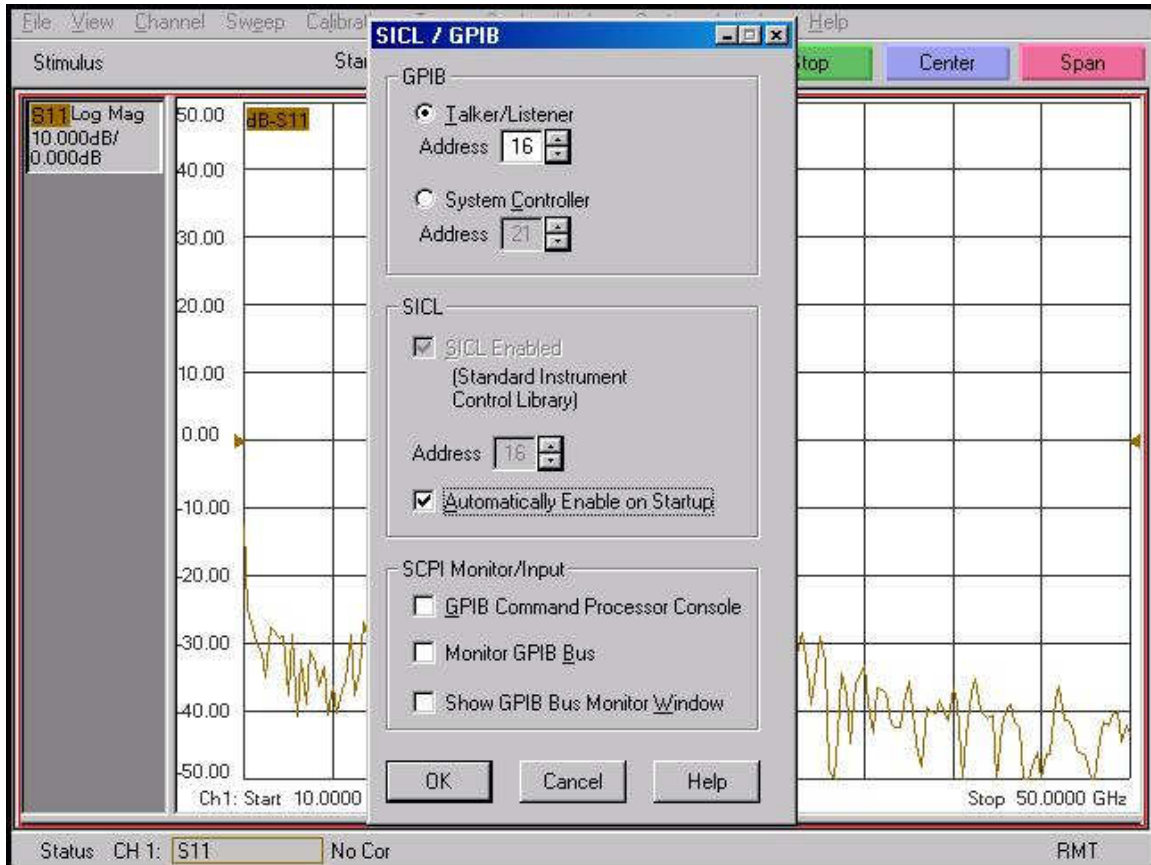
Step 2:

- Under the “Available Interface Types” section select “Internal Instrument” and click the “Configure” button.
- In the “Internal Instrument Configuration” window the “SICL Interface Name:” setting should be “hplib7”. This should populate as the default value. Then click “OK” to return to the main “IO Config” window.
- On the “IO Config” window there should now be an interface configured with the SICL name of “hplib7” under the “Configured Interfaces” section. Click “OK” to exit the IO Configuration utility.



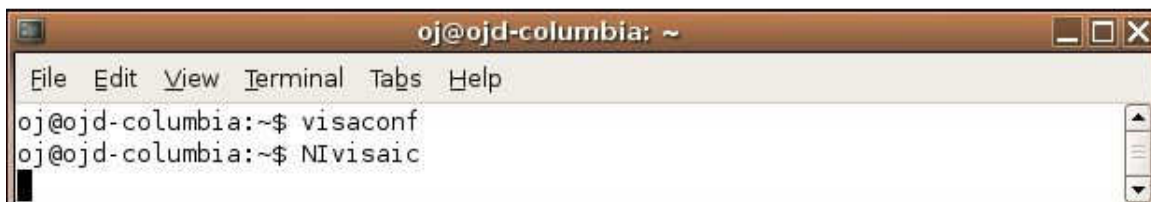
Step 3:

- First maximize the PNA application, where the Network Analyzer screen is showing.
- Select “System->Configure->SICL/GPIB” and the “SICL/GPIB” configuration window will appear.
- Verify that the “SICL Enabled” checkbox is checked. Also, if the primary means of communication with the PNA will be via SICL-LAN, it is desirable to enable the “Automatically Enable on Startup” radio button. Close the window by clicking the “OK” button.



Section 3: Confirming the Configuration and Communication

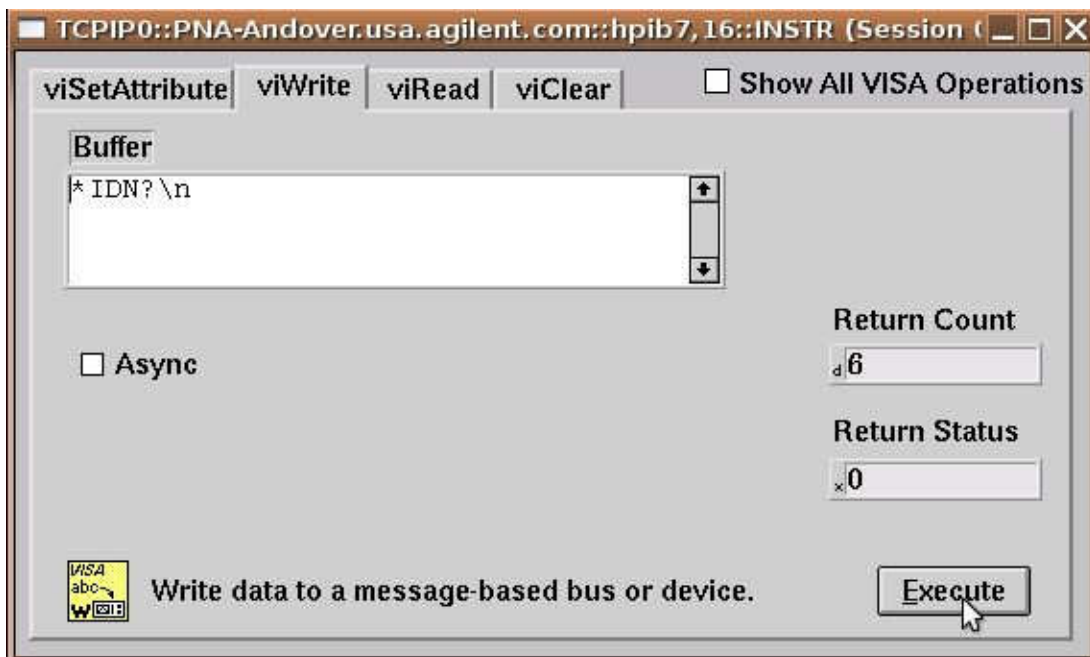
To verify a SICL-LAN connection between the PNA and controller, launch the NI VISA INTERACTIVE control from a terminal window by using the 'NIvisaic' (usr/local/vxipnp/bin/linux/NIvisa/NIvisaic) command.



Select the configured TCP/IP interface by double clicking on the selection.

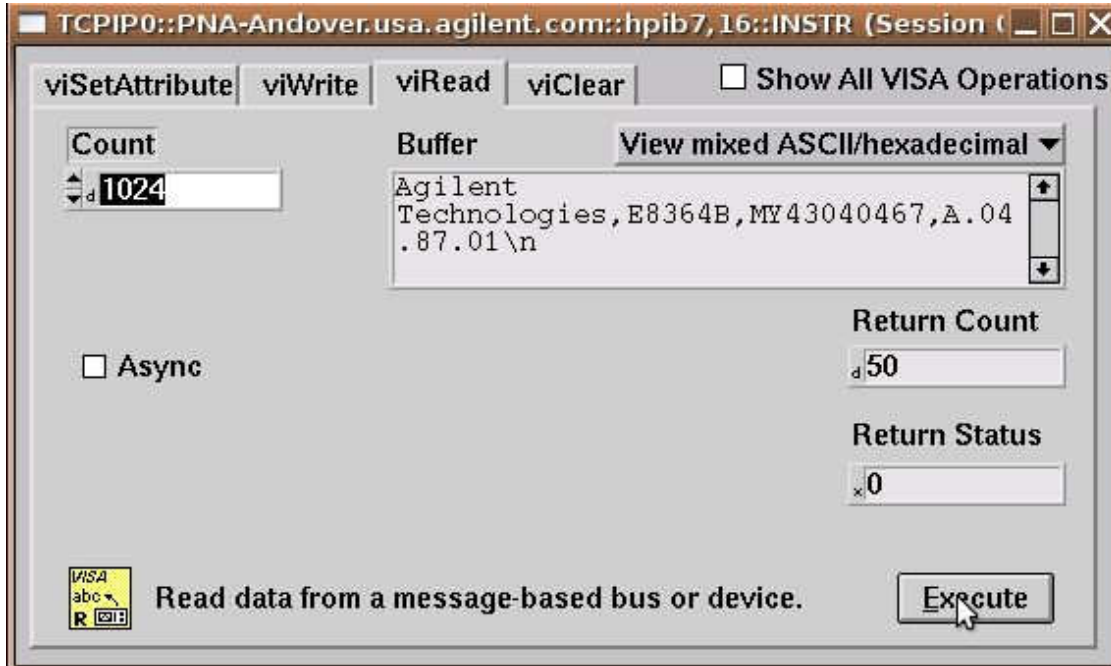


From the resultant interface execute the following sequence of steps



- Select the “viWrite” tab – The buffer should contain “*IDN?\n”
- Select the Execute button
- Select the “viRead” tab –
- Select the Execute button

The text box should correctly identify the Agilent PNA network analyzer as shown



Section 4: Notes

As a super user it may be necessary to start Samba (/etc/init.d/smb start) and disable any firewalls to complete the connection to the PNA. This is usually necessary if the PNA and PC are on a peer to peer or private network.