Verification of a LAN connection using Telnet

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Automating a test can dramatically increase the productivity, throughput, and accuracy of a process. Automating a setup involves connecting a computer to the test instrumentation using a standard communications bus like USB or LAN and then utilizing code entered via a software layer (like LabVIEW, .NET, Python, etc..) to sequence the specific instrument commands and process data.

This process normally goes quite smoothly, but if there are problems, there are some basic troubleshooting steps that can help get your test up-and-running quickly.

In this note, we are going to show how to use Telnet to test the communications connection between an instrument and a remote computer using a LAN connection to ensure that it is working properly. Once the connection is verified, you can begin to work on the control software.

Telnet provides a means of communicating over a LAN connection. The Telnet client, run on a LAN connected computer, will create a login session on the instrument.

NOTE: The Telnet connection requires open sockets on the instrumentation. At this time, not all SIGLENT products feature open sockets. Check the product page FAQs or with your local SIGLENT support office for more information.

A connection, established between the computer and instrument, generates a user interface display screen with SCPI> prompts on the command line.

Using the Telnet protocol to send commands to the instrument is similar to communicating with USB. You establish a connection with the instrument and then send or receive information using SCPI commands. Communication is interactive: one command at a time.

The Windows operating systems use a command prompt style interface for the Telnet client.

STEPS

1. Power on and connect the instrument to the network via LAN

2. Verify that the Gateway, Subnet Mask, and IP address of the instrument are valid for the network you wish to use. This information is typically located in the System Information or IO menu. See the specific instrument user's guide for more information on LAN settings.

3. On the computer, click Start > All Programs > Accessories > Command Prompt.

4. At the command prompt, type in telnet.

5. Press the Enter key. The Telnet display screen will be displayed.
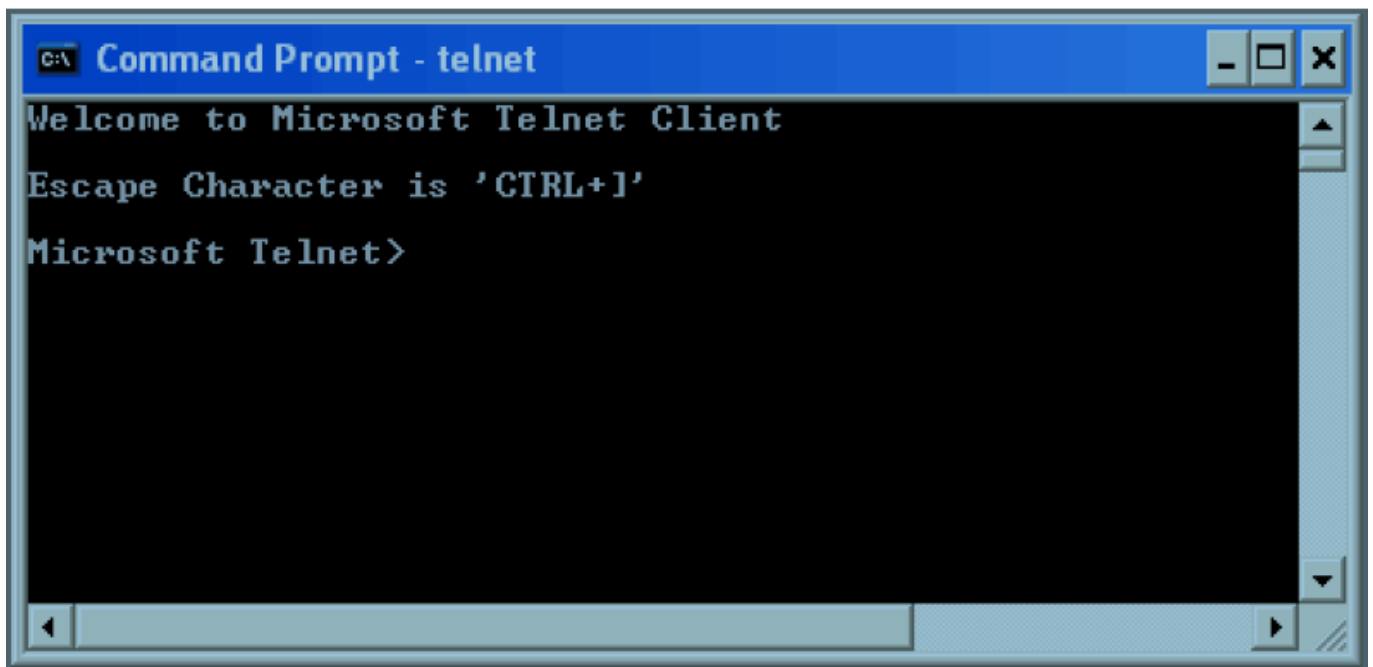
6. At the Telnet command line, type: open XXX.XXX.XXX.XXX 5024 where XXX.XXX.XXX.XXX is the instrument's IP address and 5024 is the port. You should see a response similar to the following:
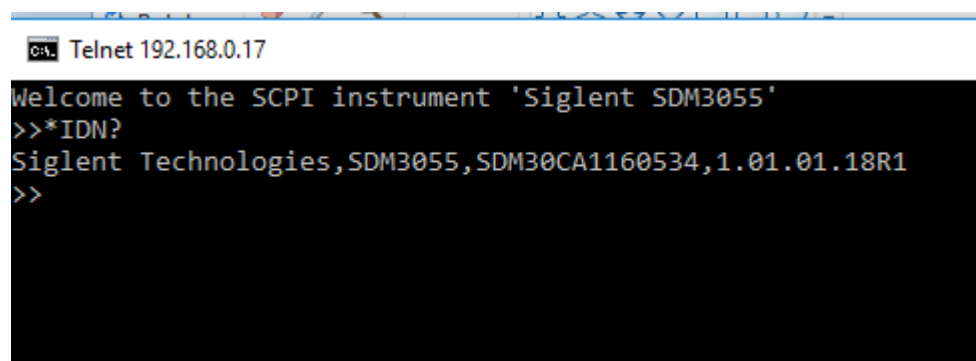
7. Now, you can enter any valid command for the specific instrument that you are controlling. See the specific programming guide for the instrument for more information.

This is especially helpful when you are planning a specific test sequence, the effect of delays/timing, or

troubleshooting a command. You can send each command one-at-a-time and check the performance of the instrument.

*IDN? is a common identification string query (question or information request) that returns the information from the connected instrument


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Telnet 192.168.0.17

Welcome to the SCPI instrument 'Siglent SDM3055'
>>*IDN?
Siglent Technologies,SDM3055,SDM30CA1160534,1.01.01.18R1
>>
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SIGLENT

North American Headquarters

SIGLENT Technologies NA
6557 Cochran Rd Solon, Ohio 44139
Tel: 440-398-5800
Toll Free:877-515-5551
Fax: 440-399-1211
info@siglent.com
www.siglentamerica.com/

European Sales Offices

SIGLENT TECHNOLOGIES GERMANY GmbH
Staetzlinger Str. 70
86165 Augsburg, Germany
Tel: +49(0)-821-666 0 111 0
Fax: +49(0)-821-666 0 111 22
info-eu@siglent.com
www.siglenteu.com

Asian Headquarters

SIGLENT TECHNOLOGIES CO., LTD.
Blog No.4 & No.5, Antongda Industrial Zone,
3rd Liuxian Road, Bao'an District,
Shenzhen, 518101, China.
Tel:+ 86 755 3661 5186
Fax:+ 86 755 3359 1582
sales@siglent.com
www.siglent.com/ens