Linux Socket Driver

User's Guide

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Linux Socket Driver

This driver is used to test the sending and receiving of data between a TPF server and a client program running on Linux. Both TCP and UDP connectivity are tested with various specified parameters.

Requirements and restrictions

- Requirement:

Building the Driver:

Dynamic Link Modules

Build Script	Members to be Assembled	Members to be compiled	Linker Options
Maketpf sockclient	n/a	sockclient.c	-pthread

Note: The Linux driver executable will be placed in linux/bin of your build directory. To launch the driver, this directory would need to be added to your path or the fully qualified pathname would need to be used.

- Restriction :

None.

Format

```
>>--|--SOCKCLIENT--|--TCP--------|--ipadr--|--port--|--nummsg--|--size--|--->
                   |--TCP:cport--|


                        |----1---|-131072-|----0---|----1---|
   >---|--SEND-ONLY--|--------|--------|--------|--------|--------|--><
       |--READ-ONLY--|--[-n]--|--[-b]--|--[-d]--|--[-l]--|--[-v]--|
           |--PING-PONG--|



 >>--|--SOCKCLIENT--|--UDP--------|--ipadr--|--port--|--nummsg--|--size--|--->
                   |--UDP:cport--|


                        |-131072-|----0---|
   >---|--SEND-ONLY--|--------|--------|--------|--><
       |--READ-ONLY--|--[-b]--|--[-d]--|--[-v]--|
           |--PING-PONG--|
```

TCP
   This keyword specifies that the driver will use the TCP protocol.

UDP
   This keyword specifies that the driver will use the UDP protocol.

cport
This option parameter defines the port that the client socket should bind to.

ipadr
This is the IP address of the server to connect to.

port
This is the port number of the server to connect to.

nummsg
This is the number of messages to be sent to the server. If **r** is specified instead, the number of messages will be set to a random number between 1 and 10000.

size
This is the size of each message. If **r** is specified instead, the size of the message will be set to a random number between 1 and 100.

SEND-ONLY
This keyword specifies that the client just sends messages to the server, and does not read any messages from the server.

READ_ONLY
This keyword specifies that the client just reads messages from the server, and does not send any messages to the server.

PING-PONG
This keyword specifies that the client and server alternate sending messages after every message.

-n
This option parameter specifies the number of TCP sockets to be created, each of which will send the number of messages specified by nummsg. The default is 1. Each socket is created as a separate thread which runs in parallel.

-b
This option parameter specifies the send and receive buffer size of the socket.

-d
This option parameter specifies the time delay between each message in milliseconds. For READ_ONLY, the delay occurs after reading each message. For SEND-ONLY, the delay occurs after sending each message. For PING-PONG, the delay occurs after each exchange (after sending/reading a message pair).

-l
This option parameter specifies the number of times that a TCP session with the proceding parameters should loop.

-v
This option flag turns on verbose mode, which forces all messages to be printed to the screen.

Examples

Example 1:

```
User:    ztest sock stype-tcp sprot-tcp ip-0 port-9999

System: This TPF command will set up a TCP server on port 9999 which will
accept connections from any IP address
```

Example 2:

```
User:    ztest sock stype-udp sprot-udp ip-0 port-8888 list-no accept-no

System: This TPF command will set up a UDP server on port 8888 which will
accept connections from any IP address
```

Example 3:

```
User:    sockclient TCP 9.57.13.117 9999 3000 r PING-PONG -n 2 -l 4

System: This command will send 3000 messages of a random size using TCP to
the TCP server running on 9.57.13.117:9999. Two sockets will be started in
parallel, and each will restart itself 4 times.
```

Example 4:

```
User:    ztest sock stype-udp sprot-udp ip-0 port-8888 list-no accept-no

System: This TPF command will set up a UDP server on port 8888 which will
accept connections from any IP address
```

Messages

This driver has a number of error messages which are self explanatory.

A typical line of output is as follows:
LXSK:000004:0:0 100 messages and 600 bytes were sent

The prefix for these output messages is in the following format:

LXSK: socket descriptor : thread number : loop iteration

References

For more information about reading syntax diagrams, also referred to as railroad diagrams, see
Accessibility information in the TPF Product Information Center.