

SNULL WORKING

SNULL– Simple Network Utility for Loading Localities,,The driver of the network device and the driver that does not talk to the "actual" devices.It works like a loopback device and simulates both actual operations and communication with actual servers and it does not send hardware requests.

It only supports the IP protocol and the driver modifies the packets because there are no remote servers. So,we must know the protocol and change content (changes source / target addresses, ...). This module produces two interfaces. What we send to one interface and it returns to the other interface. It simulates the operation of two external links. The definition of IP numbers for this is not enough, the kernel would find that both the source and the target are on this computer. It would do all the necessary operations without the driver. The driver of the external address "area" sends it to another interface and The destination address from the external address of the other interface.

It is some kind of "hidden" loopback. It turns on the least important bit of the third octet of the IP number and network (C class). Packages are sent to the network A that is connected to sn0 and the first interface. As the packages of the network B are connected to sn1 and second interface.

snullnet0- the network associated with the sn0 interface,

snullnet1- the network associated with the sn1 interface.

The addresses of these two networks should differ only in the least significant bit of the third octet and the mask should be 24-bit, local0: IP interface sn0 and it belongs to the network snullnet0. local1:IP interface sn1 and belongs to the network snullnet1.

IPs differ only in the least significant bit of the third and fourth octets. For remote0- (virtual) computer on the network snullnet0: fourth octet has to be the same as local1, each packet sent to remote 0 arrives at local1, the package changes the head as if it came from the computer remote0. remote1- (virtual) computer on the network snullnet1: fourth octet has to be the same as local0, each packet sent to remote1 arrives at emphlocal0, package changes the head, like it came from the computer remote1.

Network Numbers:

```
/etc/networks,  
snullnet0–192.168.0.0,  
snullnet1–192.168.1.0,
```

Computer numbers(hosts):

```
/etc/hosts,  
192.168.0.1–local0,  
192.168.0.2–remote0,  
192.168.1.2–local1,  
192.168.1.1–remote1.
```

```
ifconfig sn0 local0 netmask 255.255.255.0
```

```
ifconfig sn1 local1 netmask 255.255.255.0
```

Ping remote0 and remote1:

```
morgana% ping -c 2 remote0
```

```
64 bytes from 192.168.0.99: icmp_seq=0 ttl=64 time=1.6 ms
```

```
64 bytes from 192.168.0.99: icmp_seq=1 ttl=64 time=0.9 ms
```

```
2 packets transmitted, 2 packets received, 0% packet loss
```

```
morgana% ping -c 2 remote1
```

64 bytes from 192.168.1.88: icmp_seq=0 ttl=64 time=1.8 ms

64 bytes from 192.168.1.88: icmp_seq=1 ttl=64 time=0.9 ms

2 packets transmitted, 2 packets received, 0% packet loss

if we send a packet to a computer on a known network that the driver does not "translate" package appears on another interface, but it is ignored by the following:
package for 192.168.0.32, goes to the sn0 interface, appears on sn1, destination address 192.168.1.32, packet is ignored. The driver emulates Ethernet protocol, 10base-T, 100base-T, ali Gigabit, tcpdump can be used.

Snul works only with IP packets and corrupts all other packets and it changes packet headers: source, destination, checksum.