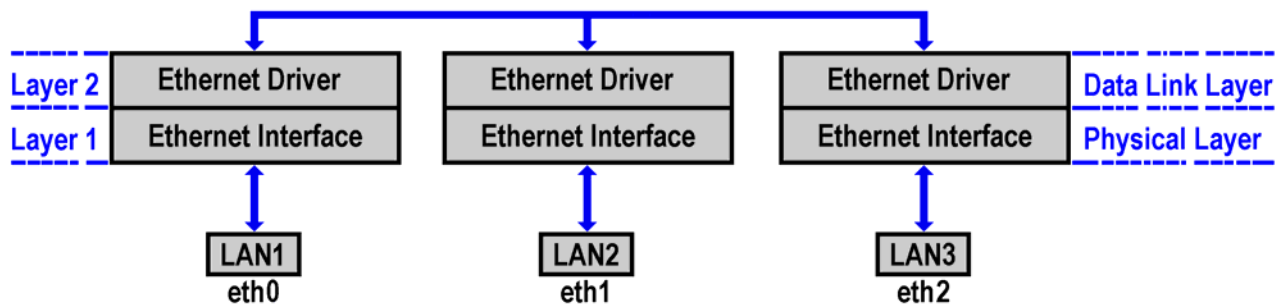


How to setup a Multiport Ethernet Bridge (IEEE 802.1d 3-Port Switch)

The integrated Ethernet bridging tool of your Linux Security Gateway IGW/100 default embedded Linux configuration – called “Embedded Gateway Linux” – can also be used for building an Ethernet bridge with three ports. Please see also the Linux Security Gateway IGW/100 microHOWTO “*How to setup an Ethernet Bridge*” for more details about bridging.



The following steps shows how to create an Ethernet bridge with the LAN1 (eth0), LAN2 (eth1) and LAN3 (eth2) ports of the IGW/100.

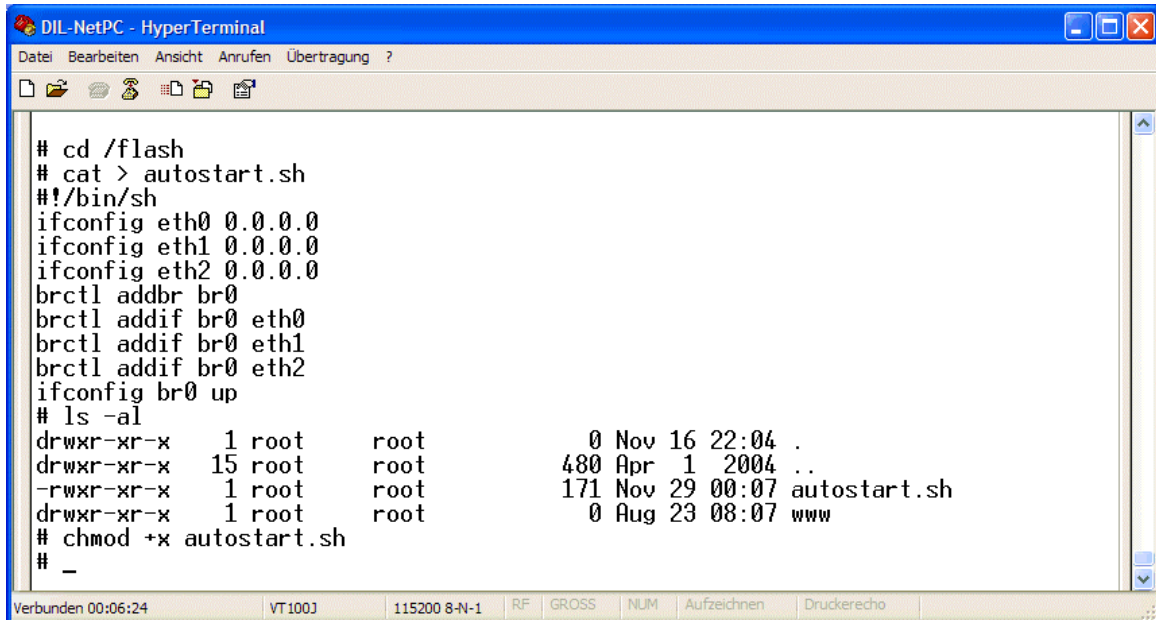
- **1. Step:** Enter the following command sequence within an IGW/100 Linux Security Gateway RS232-based serial console session:

```
cd /flash
cat > autostart.sh
#!/bin/sh
ifconfig eth0 0.0.0.0
ifconfig eth1 0.0.0.0
ifconfig eth2 0.0.0.0
brctl addbr br0
brctl addif br0 eth0
brctl addif br0 eth1
brctl addif br0 eth2
ifconfig br0 up
CTRL-D (CTRL-D stops the Linux cat command)
chmod +x autostart.sh
```

The first three *ifconfig* commands of this sample removes the default IP addresses from eth0 (IGW/100 LAN1 interface), eth1 (IGW/100 LAN2 interface) and eth2 (IGW/100 LAN3 interface). The four *brctl* commands defines a bridge with the name *br0* and adds the three IGW/100 Ethernet LAN interface eth0, eth1 and eth2 to this bridge. The final *ifconfig* command brings the Ethernet bridge up to work.

After the four *brctl* commands and the final *ifconfig* command the IGW/100 LAN1, LAN2 and LAN3 Ethernet interfaces form a transparent three-port switch. The LAN1, LAN2 and LAN3 interfaces are now in promiscuous mode. In this operation mode the port of a network device which enables that port to examine every packet being transmitted on the network segment they

are attached to. This contrasts to the non-promiscuous mode of most network device ports that only examine those packets specifically addressed to them (unicast), or broadcast, or to those multicast address(es) to which the device port is a member. Promiscuous mode is set on bridge and router ports and used by those network devices, such as network sniffers, that must examine every packet on a network segment in order to process the packets or collect information about them.



```
# cd /flash
# cat > autostart.sh
#!/bin/sh
ifconfig eth0 0.0.0.0
ifconfig eth1 0.0.0.0
ifconfig eth2 0.0.0.0
brctl addbr br0
brctl addif br0 eth0
brctl addif br0 eth1
brctl addif br0 eth2
ifconfig br0 up
# ls -al
drwxr-xr-x  1 root  root           0 Nov 16 22:04 .
drwxr-xr-x 15 root  root          480 Apr  1 2004 ..
-rwxr-xr-x  1 root  root          171 Nov 29 00:07 autostart.sh
drwxr-xr-x  1 root  root           0 Aug 23 08:07 www
# chmod +x autostart.sh
# _
```

Please note: The command sequence in this first step is using the IGW/100 Autostart feature. This feature allows you to start programs or execute Linux shell commands at boot time. In this cases the IGW/100 will run as Ethernet bridge with three ports after each reset or power-up.

That's all.