

Internet IPoE

Internet.

- - FreeBSD
 - Linux
- NAS
 -
-
- IPoE
- IPN
- - Online Snapshot

- 1.
- 2.

```
"" " " $conf{INTERNET_IPOE_NEGATIVE}.  
$conf{INTERNET_IPOE_FILTER} .
```

```
(config.pl) $conf{INTERNET_IPOE_START} $conf{INTERNET_IPOE_STOP}.
```

%IP	IP
%MASK	(/32, /24)
%NUM	(\$conf{INTERNET_IPOE_FIRST_RULE} + (PORT IP))
%LOGIN	
%SPEED_IN	
%SPEED_OUT	

NAS_IP_ADDRESS	IP
NAS_MNG_USER	
NAS_MNG_IP_PORT	IP:PORT
NAS_MNG_IP	NAS IP
NAS_MNG_PORT	
NAS_ID	
NAS_TYPE	

```
/usr/abills/libexec/linkupdown.
```

- 1.

abills/libexec/config.pl

```

$conf{INTERNET_IPOE_START}='SUDO=/usr/local/bin/sudo;
CMD="${SUDO} /usr/abills/libexec/linkupdown ipn up getif %LOGIN %IP %DEBUG > /dev/null 2>&1";
if [ "${NAS_TYPE}" = "mikrotik" ]; then CMD="/usr/abills/libexec/linkupdown mikrotik up - %LOGIN %IP
NAS_HOST=${NAS_MNG_IP_PORT} NAS_MNG_USER=${NAS_MNG_USER}";
elif [ "${NAS_MNG_IP_PORT}" != "" ]; then CMD="/usr/bin/ssh -p ${NAS_MNG_PORT} -o
StrictHostKeyChecking=no -i /usr/abills/Certs/id_rsa.${NAS_MNG_USER} ${NAS_MNG_USER}@${NAS_MNG_IP}
\"${CMD}\""; fi;
eval "${CMD}";

$conf{INTERNET_IPOE_STOP}='SUDO=/usr/local/bin/sudo;
CMD="${SUDO} /usr/abills/libexec/linkupdown ipn down getif %LOGIN %IP %DEBUG > /dev/null 2>&1";
if [ "${NAS_TYPE}" = "mikrotik" ]; then CMD="/usr/abills/libexec/linkupdown mikrotik down - %LOGIN %IP
NAS_HOST=${NAS_MNG_IP_PORT} NAS_MNG_USER=${NAS_MNG_USER}";
elif [ "${NAS_MNG_IP_PORT}" != "" ]; then CMD="/usr/bin/ssh -p ${NAS_MNG_PORT} -o
StrictHostKeyChecking=no -i /usr/abills/Certs/id_rsa.${NAS_MNG_USER} ${NAS_MNG_USER}@${NAS_MNG_IP}
\"${CMD}\""; fi;
eval "${CMD}";

```

- mikrotik-dhcp:

```

$conf{INTERNET_IPOE_START}='SUDO=/usr/local/bin/sudo;
CMD="${SUDO} /usr/abills/libexec/linkupdown ipn up getif %LOGIN %IP %DEBUG > /dev/null 2>&1";
if [ "${NAS_TYPE}" = "mikrotik_dhcp" ]; then CMD="/usr/abills/libexec/linkupdown mikrotik up - %LOGIN %
IP NAS_HOST=${NAS_MNG_IP_PORT} NAS_MNG_USER=${NAS_MNG_USER}";
elif [ "${NAS_MNG_IP_PORT}" != "" ]; then CMD="/usr/bin/ssh -o StrictHostKeyChecking=no -i /usr/abills
/Certs/id_rsa.${NAS_MNG_USER} ${NAS_MNG_USER}@${NAS_MNG_IP} \"${CMD}\""; fi;
eval "${CMD}";

$conf{INTERNET_IPOE_STOP}='SUDO=/usr/local/bin/sudo;
CMD="${SUDO} /usr/abills/libexec/linkupdown ipn down getif %LOGIN %IP %DEBUG > /dev/null 2>&1";
if [ "${NAS_TYPE}" = "mikrotik_dhcp" ]; then CMD="/usr/abills/libexec/linkupdown mikrotik down - %LOGIN %
IP NAS_HOST=${NAS_MNG_IP_PORT} NAS_MNG_USER=${NAS_MNG_USER}";
elif [ "${NAS_MNG_IP_PORT}" != "" ]; then CMD="/usr/bin/ssh -o StrictHostKeyChecking=no -i /usr/abills
/Certs/id_rsa.${NAS_MNG_USER} ${NAS_MNG_USER}@${NAS_MNG_IP} \"${CMD}\""; fi;
eval "${CMD}";

```

\$conf{INTERNET_IPOE_FILTER}

,, Filter ID. \$conf{IPN_FW_START_RULE} \$conf{IPN_FW_STOP_RULE}. %STATUS (ONLINE_ENABLE,ONLINE_DISABLE, HANGUP)

```

%LOGIN
%IP
%FILTER_ID
%PORT
%UID

```

.

:

```

NAS_IP_ADDRESS
NAS_MNG_USER
NAS_MNG_IP_PORT
NAS_MNG_IP
NAS_MNG_PORT

```

, -, sudo.: abills/misc/ipn_filter.sh

FreeBSD

, /usr/local/etc/rc.d/shaper_start.sh

/etc/rc.conf

abills_shaper_enable="YES"	
abills_ipn_nas_id=" IPN "	.
abills_ipn_if=" "	
abills_ipn_allow_ip=" "	IP .
abills_nat="xx.xx.xx.xx:10.0.0.0/16:interface"	NAT

ipfw 20000 40000. \$conf{IPN_FW_FIRST_RULE}.

sudo

sudo, , WEB.freebsd:

```
cd /usr/ports/security/sudo
make
make install
```

/usr/local/etc/sudoers

```
#Allow ABills shapper
www ALL = NOPASSWD: /usr/abills/libexec/linkupdown
www ALL = NOPASSWD: /sbin/ipfw
```

Linux

/etc/rc.d/init.d/shaper_start.sh

/etc/rc.conf(,)

```
abills_shaper_enable="YES"
abills_ipn_if="eth0,eth2"
abills_nat_enable=":192.168.0.0/24:eth1"
```

eth0,eth2	.
eth1	
192.168.0.1	IP
192.168.0.0/255.255.255.0	

```

!/bin/sh

INTERFACES='eth0 eth2';
TC="/sbin/tc"

for INTERFACE in ${INTERFACES}; do
    TCQA="${TC} qdisc add dev ${INTERFACE}"
    TCQD="${TC} qdisc del dev ${INTERFACE}"

    $TCQD root &>/dev/null
    $TCQD ingress &>/dev/null

    $TCQA root handle 1: htb
    $TCQA handle ffff: ingress

    echo "Shaper UP ${INTERFACE}"
done

/sbin/iptables -t nat -A PREROUTING -s 192.168.0.0/24 -p tcp --dport 80 -j REDIRECT --to-ports 80
/sbin/iptables -t nat -A PREROUTING -s 192.168.0.0/24 -p tcp --dport 443 -j REDIRECT --to-ports 80

/sbin/iptables -A FORWARD -j DROP

```

sudo

/etc/sudoers

```

#Allow ABills shapper
apache    ALL = NOPASSWD: /usr/abills/libexec/linkupdown
apache    ALL = NOPASSWD: /sbin/iptables

```

NAS

: NAS.

:

NAS_IP_ADDRESS	IP
NAS_MNG_USER	
NAS_MNG_IP_PORT	IP:PORT
NAS_MNG_IP	NAS IP
NAS_MNG_PORT	
NAS_ID	
NAS_TYPE	

NAS_MNG_IP_PORT .

1. SSH . .

```

/usr/abills/misc/certs_create.sh ssh abills_admin

```

1. abills_admin .

2. `abills/Certs/id_rsa.abills_admin.pub /home/abills_admin/.ssh/authorized_keys` .
3. .
4. .

/etc/sudoers (FreeBSD - /usr/local/etc/sudoers)

```
#Allow ABills shapper
abills_admin ALL = NOPASSWD: /usr/abills/libexec/linkupdown
abills_admin ALL = NOPASSWD: /sbin/ipfw
```

- (IPN Activate).

-

```
ipfw table 10 list
```

```
--- table(10), set(0) ---
192.168.11.11/32 432
```

/var/log/httpd/abills-error.log

(). IP Internet. IPN , . crontab 5.

```
/usr/abills/libexec/periodic monthly MODULES=Internet LOGON_ACTIVE_USERS
```

:

NAS_IDS=1;2	. 'ipcad'
TP_ID=3,6	.
LOGIN=test,test3	.
GID=1	
DEBUG=...	1-4 5 - 6 -

IPoE

```
/usr/abills/libexec/periodic monthly MODULES=Internet SRESTART=1 NO_ADM_REPORT=1 NAS_IDS=1 LOCAL_NAS=1
FN=ipoe_periodic_session_restart
```

NAS_IDS=1	
LOCAL_NAS=1	. NAS NAS_IDS
FN=ipoe_periodic_session_restart	

IPN

, .
•
•

\$conf{LOG_KEEP_PERIOD}=1;

Online Snapshot

Online

```
/usr/abills/libexec/billd online_snapshot
```

```
/usr/abills/libexec/billd online_snapshot start
```