

ARP, TCP, IP utility - zjednodusene a rychle

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Obsah

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Upozorneni: U popisovanych prikazu nejsou uvedeny vsechny parametry a volby. Pro ziskani kompletnich informaci pouzijte prikaz man.

1.ip

Prikaz ip je plnohodnotnou nahradou za prikazy ifconfig,route,arp. Umoznuje vsak i pokrocilejsi spravu sitovych nastaveni.

ip link	„nahozeni“ rozhrani, nastaveni MAC adresy
ip neigh	manipulace s ARP tabulkou
ip addr	manipulace s IP adresami
ip route	manipulace s routovacimi tabulkami
ip rule	manipulace s routovacimi pravidly
ip tunnel	nastaveni ipip, sit a gre tunelu
ip maddr	multicast
ip mroute	multicast
ip monitor	pro ladeni - zobrazuje zmeny routovaci tab.

Option

-s	statistiky
-r	preklad jmen - resolve
-f	family {inet, inet6, ipx ...}

ip link

vypis sitovych rozhrani

ip link

vypis statistik sitovych rozhrani

ip -s link

shozeni rozhrani eth1

ip link set dev eth1 down

nahozeni rozhrani eth1

ip link set dev eth1 up

nastaveni mac adresy na rozhrani eth1

ip link set eth1 address 00:3a:cd:34:12:33

ip neigh

vypis arp tabulky

ip neigh

vypis arp tabulky pro konkretni rozhrani

ip neigh show dev eth1

pridani polozky do arp tabulky

ip neigh add 10.0.0.5 lladdr 00:ad:4c:34:23:24 dev eth1

ip addr

vypis IP adres

ip addr

vypis IP adres pro konkretni rozhrani

ip addr show dev eth1

pridani IP adresy na rozhrani

ip addr add 10.0.0.1/32 dev eth1

odstraneni IP adresy z rozhrani

ip addr del 10.0.0.1/32 dev eth1

ip route

vypis routovaci tabulky

ip route

vypis zaznamu routovaci tabulky vztahujicich se ke
konkretnimu rozhrani

ip route show dev eth1

pridani defaultni routy do routovaci tabulky

ip route add default via 10.0.0.1

pridani routy do routovaci tabulky

ip route add 10.0.0.0/8 via 10.0.0.1

odstraneni routy z routovaci tabulky

ip route del 10.0.0.0/8 [via 10.0.0.1]

2. ifconfig

Ifconfig zobrazuje a nastavuje vlastnosti sitoveho rozhrani.

nahozeni [shozeni] rozhrani
ifconfig eth1 up [down]

nastaveni IP adresy
ifconfig eth1 10.0.0.2 netmask 255.255.255.0

nastaveni IP adresy a GW
**ifconfig eth1 10.0.0.2 netmask 255.255.255.255 gw
10.0.0.1**

nastaveni IP adresy, broadcast adresy a GW
**ifconfig eth1 10.0.0.2 broadcast 255.255.255.0 netmask
255.255.255.255 gw 10.0.0.1**

pridani dalsi IP adresy na rozhrani - alias
ifconfig eth1 inet add 10.2.2.2

3.route

Nastroj pro manipulaci s routovací tabulkou.

vypis routovací tabulky

```
route [-n]
```

pridani defaultni routy do routovací tabulky

```
route add default gw 10.0.0.1
```

pridani routy do routovací tabulky

```
route add -net 10.0.0.0 netmask 255.0.0.0 gw 10.0.0.1
```

odstraneni routy z routovací tabulky

```
route del -net 10.0.0.0 netmask 255.0.0.0
```

4.arp

Nastroj pro manipulaci s arp tabulkou.

vypis arp tabulky

arp [-n]

pridani staticke polozky do arp tabulky

arp -s 10.0.2.3 00:ac:4c:34:23:23

odstraneni polozky z arp tabulky

arp -d 10.0.2.3 00:ac:4c:34:23:23

nacteni staticke arp tabulky ze souboru

arp -f soubor.txt

5.arping

Nastroj provadejici arp-ping na 2.vrstve. Pozor lze provadet pouze na lokalnim segmentu site.

```
arping 10.0.0.3
```

6.netstat

Nastroj umoznujici zobrazit sitove spojeni, routovaci tabulku, statistiky rozhrani ...

zobrazeni routovaci tabulky

netstat -r [-n]

Kernel IP routing table

Destination	Gateway	Genmask	Flags	MSS	Window	irrt	Iface
195.113.106.128	0.0.0.0	255.255.255.192	U	0	0	0	eth0
169.254.0.0	0.0.0.0	255.255.0.0	U	0	0	0	eth0
0.0.0.0	195.113.106.129	0.0.0.0	UG	0	0	0	eth0

zobrazeni sitovych spojeni

netstat -natup

7.ethtool

Nastroj umoznujici zobrazit a menit linkove vlastnosti rozhrani.

```
ethtool -i eth1  
driver: e1000  
version: 6.3.9-NAPI  
firmware-version: N/A  
bus-info: 0000:01:00.0
```

ethtool eth1

Settings for eth1:

```
Supported ports: [ TP ]
Supported link modes:  10baseT/Half 10baseT/Full
                      100baseT/Half 100baseT/Full
                      1000baseT/Full

Supports auto-negotiation: Yes
Advertised link modes: 10baseT/Half 10baseT/Full
                      100baseT/Half 100baseT/Full
                      1000baseT/Full

Advertised auto-negotiation: Yes
Speed: 100Mb/s
Duplex: Full
Port: Twisted Pair
PHYAD: 0
Transceiver: internal
Auto-negotiation: on
Supports Wake-on: umbg
Wake-on: g
Current message level: 0x00000007 (7)
Link detected: yes
```

nastaveni rychlost a duplexu

```
ethtool -s eth1 autoneg off speed 10 duplex half
```

9. Pouzite zdroje a nastroje

Zdroje

- man ip, ifconfig, route, arp, arping, netstat, ethtool
- prednaska Petra Kopeckeho - LinuxBox.cz
http://ols.vsb.cz/2005-11-10/ip_prot/ip_prot.pdf

Nastroje

DeKuji za pozornost