IPv6 at Home

NAT64, DNS64, OpenVPN

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IPv6

ifconfig eth0

```
Link encap:Ethernet HWaddr 52:54:00:03:c2:e6

inet addr:31.130.202.37 Bcast:31.130.202.63 Mask:255.255.255.192
```

IPv6

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```
Link encap:Ethernet HWaddr 52:54:00:03:c2:e6

inet addr:31.130.202.37 Bcast:31.130.202.63 Mask:255.255.255.192

inet6 addr: fe80::5054:ff:fe03:c2e6/64 Scope:Link
```

IPv6

ifconfig eth0

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Link encap:Ethernet HWaddr 52:54:00:03:c2:e6

inet addr:31.130.202.37 Bcast:31.130.202.63 Mask:255.255.255.192

inet6 addr: fe80::5054:ff:fe03:c2e6/64 Scope:Link

inet6 addr: 2001:67c:2268:1003:5054:ff:fe03:c2e6/64 Scope:Global
```

IPv6 in Belarus

Providers

- MTS*
- Velcom*
- who else ?!

host google.com

```
google.com has address 173.194.112.32
google.com has IPv6 address 2a00:1450:4001:801::1003
```

Requirements

- IPv6 andress
- subnet /64
- as closer as possible

VPS with IPv6 (1/2)

Requirements

- IPv6 andress
- subnet /64
- as closer as possible

Advertisement

- `http://www.datahata.by/`

VPS with IPv6 (2/2)

```
ping6 -c 1 -n google.com

PING google.com(2a00:1450:4001:c02::8a) 56 data bytes
64 bytes from 2a00:1450:4001:c02::8a: icmp_seq=1 ttl=55 time=46.5 ms

--- google.com ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 46.518/46.518/46.518/0.000 ms
```
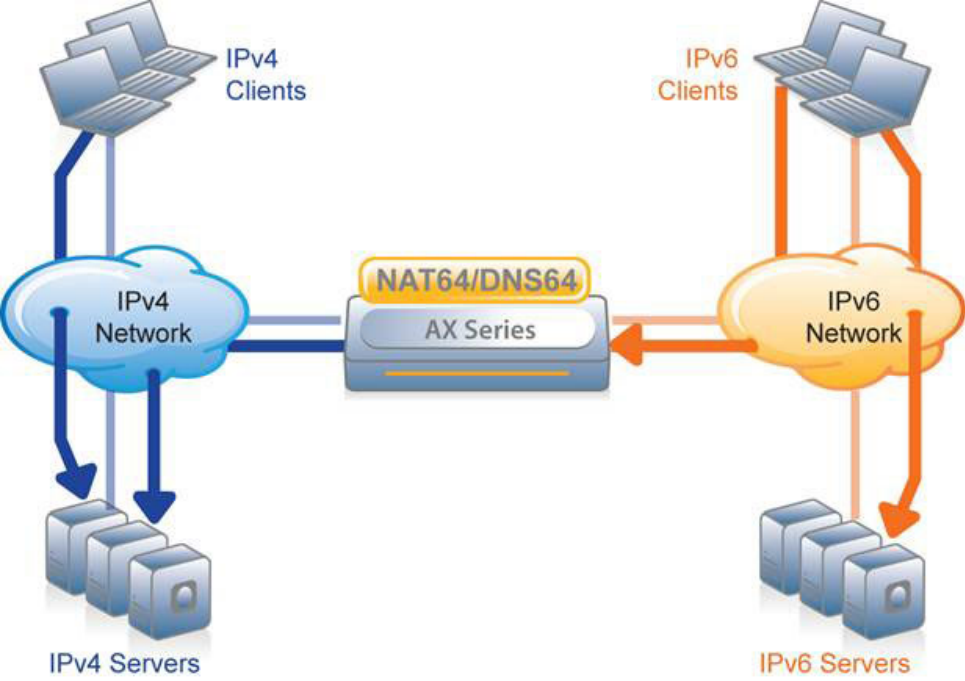
OpenVPN

/etc/openvpn/server.conf

```
dev tun
tun-ipv6
push tun-ipv6
push "route-ipv6 2000::/3"
push "dhcp-option DNS 31.130.202.37"    # nat64/dns64
server-ipv6 2001:67c:2268:1007:1::/64
```

/etc/sysctl.conf

```
net.ipv6.conf.all.forwarding=1
net.ipv6.conf.all.accept_ra=2
```

IPv4 Clients

IPv6 Clients

NAT64/DNS64

AX Series

IPv4 Network

IPv6 Network

IPv4 Servers

IPv6 Servers

NAT64, DNS64 (2/3)

/etc/tayga.conf

```
prefix 2001:67c:2268:1007:ffff::/96
```

/etc/bind/named.conf.options

```
options {
        listen-on-v6 { any; };
        allow-query { any; };
        dns64 2001:67c:2268:1007:ffff::/96 {
                clients { any; };
        };
};
```

NAT64, DNS64 (3/3)

host mlug.linux.by

```
mlug.linux.by has address 216.59.3.46
mlug.linux.by has IPv6 address 2001:67c:2268:1007:ffff:0:d83b:32e
```

curl -6 -v 'http://mlug.linux.by'

```
* Rebuilt URL to: http://mlug.linux.by/
* Hostname was NOT found in DNS cache
*   Trying 2001:67c:2268:1007:ffff:0:d83b:32e...
> GET / HTTP/1.1
...
< HTTP/1.1 200 OK
...
```

Demo

Thank You. Questions

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https://community.openvpn.net/openvpn/wiki/IPv6
https://ipvsix.me/?p=106
http://www.datahata.by/