EoIP: bridge LANs over the Internet

Easy solution for connect LAN between Work and Home.

Anuwat Ngowchieng (MTCNA, MTCWE)  
too101@gmail.com
Ethernet over IP (EoIP) Tunneling is a MikroTik RouterOS protocol that creates an Ethernet tunnel between two routers on top of an IP connection. The EoIP tunnel may run over IPIP tunnel, PPTP tunnel or any other connection capable of transporting IP.

When the bridging function of the router is enabled, all Ethernet traffic (all Ethernet protocols) will be bridged just as if there where a physical Ethernet interface and cable between the two routers (with bridging enabled). This protocol makes multiple network schemes possible.
Network setups with EoIP interfaces

- Possibility to bridge LANs over the Internet
- Possibility to bridge LANs over encrypted tunnels
- Possibility to bridge LANs over 802.11b 'ad-hoc' wireless networks
Example
Application

- Access Home resource from work
  - NAS
  - Printer / Scanner
  - IP camera
  - Remote desktop
  - Internet
  - Other
Advantages and Disadvantages

Advantages

- Easy to setup
  - Port forwarding
  - Access lists
- Portability
- Security

Disadvantages

- RouterOS only
Setup step

- Create EoIP tunnel
- Bridge local interfaces with EoIP tunnel
- Filter DHCP requests over EoIP
Configuration

ISP1

Internet

ISP2

a.a.a.a
192.168.9.254

Office

b.b.b.b
192.168.9.1

Home
Create EoIP tunnel

Office

MAC Address: 00:00:5E:80:00:00 - 00:00:5E:FF:FF:FF

Home

MAC Address: 00:00:5E:80:00:01 - 00:00:5E:FF:FF:FF

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Create EoIP tunnel

- **Office**

  ```
  /interface eoip
  add mac-address=00:00:5E:80:00:FE name=eoip-tunnel1\n  remote-address=b.b.b.b tunnel-id=9
  ```

- **Home**

  ```
  /interface eoip
  add mac-address=00:00:5E:80:00:01 name=eoip-tunnel1\n  remote-address=a.a.a.a tunnel-id=9
  ```
Bridge local interfaces with EoIP tunnel

```
/interface bridge port
add bridge=bridge-local
local interface=eoip-tunnel1
```
Filter DHCP request over EoIP
Filter DHCP requests over EoIP

/interface bridge filter
add action=drop chain=forward comment="Drop all DHCP requests over EoIP bridge"
dst-port=67 ip-protocol=udp
mac-protocol=ip
Things to Consider

- IP address management
  - Static leases for DHCP
  - Separate range for DHCP pool
- Firewall
Thank You