

IP over DNS mini-HOWTO

Christian Perrier

Thailand MiniDebconf 2010, Khon Kaen, Thailand



Basic principles

To be used on hotspots and any pay-ware Internet connection

Tunnel IPv4 data through a DNS server

Most hotspots have to leave DNS traffic going out because “the most used operating system” has a 5 minutes cache for DNS



Pre-requisites

Control over a real domain (mytunnel.com)

Control a server with an IP address on the Internet

Do not have mytunnel.com served on this server



Preparation of the DNS domain

Delegate a subdomain to the server

tunnelhost	IN	A	42.42.42.42
tunnel1	IN	NS	tunnelhost.mytunnel.c



Software installation: server side

```
apt-get install iodine
```

```
Configure iodine server (done by debconf)
```

```
kheops:/etc/default# more iodine
# Default settings for iodine. This file is sourced from
# /etc/init.d/iodined
START_IODINED="true"
IODINED_ARGS="172.19.1.1 tunnellhost.mytunnel.com"
IODINED_PASSWORD="secret"
```



Software operating: server side

One process (unprivileged)

```
kheops:/etc/default# ps ax|grep iodine
6285 ?          Ss          0:33 /usr/sbin/iodined -u iodine
```

A new interface

```
kheops:/etc/default# ifconfig dns0
dns0      Link encap:UNSPEC  HWaddr 00-00-00-00-00-00-
          inet  adr:172.19.1.1  P-t-P:172.19.1.1  Masqu
          UP POINTOPOINT RUNNING NOARP MULTICAST  MTU:
          RX packets:33223 errors:0 dropped:0 overruns
          TX packets:32749 errors:0 dropped:0 overruns
          collisions:0 lg file transmission:500
          RX bytes:4039833 (3.8 MiB)  TX bytes:1331866
```

Software installation: client side

```
apt-get install iodine
```

```
Configure iodine client (done by debconf)
```

```
root@mykerinos:~# more /etc/default/iodine
# Default settings for iodine. This file is sourced from
# /etc/init.d/iodined
START_IODINED="false"
IODINED_ARGS=""
IODINED_PASSWORD=""
```



Software operating: client side

Launch iodine manually

```
root@mykerinos:~# iodine 42.42.42.42 tunnellhost.mytun
Enter password:
Opened dns0
Opened UDP socket
Version ok, both using protocol v 0x00000500. You are
Setting IP of dns0 to 172.19.1.2
Setting MTU of dns0 to 1200
Switching to Base64 codec
Server switched to codec Base64
Autoprobing max downstream fragment size... (skip with
768 ok.. 1152 ok.. ...1344 not ok.. ...1248 not ok...
Setting downstream fragment size to max 1188...
Sending queries for tunnellhost.mytunnel.com to 42.42.
Detaching from terminal...
```

Software operating: client side

Enjoy

```
bubulle@mykerinos:~> ping 172.19.1.1
PING 172.19.1.1 (172.19.1.1) 56(84) bytes of data.
64 bytes from 172.19.1.1: icmp_seq=1 ttl=64 time=280 m
64 bytes from 172.19.1.1: icmp_seq=2 ttl=64 time=279 m
64 bytes from 172.19.1.1: icmp_seq=3 ttl=64 time=278 m
```

