How-To Guide

Version 1.0

Eric Tsang & Marc Vouvé, 6D

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# Gateway Setup

This section provides instructions that should be performed on the gateway machine. The firewall is designed to drop all traffic directed directly to it, so one should setup the firewall only after properly configuring and testing of the routing. After applying the firewall by running the ./firewall.sh script, re-run the ./gateway.sh script to re-apply NAT ing, because the ./firewall.sh script flushes iptables before applying its rules.

## Routing Setup

The following instructions are for setting up the gateway machine so that it forwards traffic to and from the WAN to and from its internal hosts on the LAN:

1. enable the LAN network interface connected on the gateway machine:

# ip link set [LAN network interface] up

1. remove all IP addresses of the LAN network interface connected on the gateway machine:

# ip addr flush dev [LAN network interface]

1. configure the WAN network interface on the gateway machine such that it has the appropriate IP address:

# ip addr flush dev [WAN network interface]

# ip addr add [IP address] dev [WAN network interface]

1. configure the routing table on the gateway machine such that it can communicate with other hosts on the WAN.
2. edit the configuration options in ./gateway.sh as required.
3. run ./gateway.sh as root to enable forwarding, source NAT ing, configure the routing table, and trusted DNS servers:

# ./gateway.sh

1. ping a host on the LAN and WAN by IP address to verify that routing and network interface configurations are correct
2. ping a host on the WAN by name to verify that DNS is configured properly.

## Firewall Setup

The following instructions are for setting up the firewall on the gateway machine:

1. edit the configuration options in ./firewall.sh as required.
2. apply the firewall by executing the ./firewall.sh script.

# ./firewall.sh

1. re-enable NAT ing by executing the ./gateway.sh script.

# ./gateway.sh

## Firewall Teardown

The following instructions are for removing the firewall from the gateway machine:

1. execute the script, passing it "stop" as its first argument

# ./firewall.sh stop

# Internal Host Setup

The following instructions are for configuring the network interfaces, routing table, and DNS settings on host machines on the LAN:

1. enable the gateway network interface on the host machine:

# ip link set [gateway network interface] up

1. remove all IP addresses of the gateway network interface on the host machine:

# ip addr flush dev [gateway network interface]

1. edit the configuration options in ./host.sh as required.
2. run ./host.sh as root to configure the routing table, and trusted DNS servers:

# ./host.sh

1. ping the gateway machine and a WAN host by IP address to verify that routing and network interface configurations are correct .
2. ping a host on the WAN by name to verify that DNS is configured properly.