

Ovovarenius: Bpezios Kavozavzios | Ovpa PC: LAPTOP-RLR92PLC
OvpaSar: 2 | Hpeporunia: 26/05/2023

Egazupiouni "Aozur 10"

Tixu nparoerius (Firewalls) uai NAT.

Aozur 1

1.1| uoload ipfw

1.2| kldstat ~> EpwanTer zo ipfw.ko

1.3| ping 127.0.0.1 ~> Permission denied

1.4| ipfw list ~> 65535 deny ip from any to any

1.5| ipfw show ~> 65535 3 252 deny ip from any to any

1.6| ipfw zero

1.7| ipfw add 100 allow all from any to any via lo0

1.8| ping 127.0.0.1 ~> Nat, eival enizuxi

1.9| ping 192.168.1.3 ~> Permission denied

1.10| ipfw add 100 allow icmp from any to any

1.11| 00200 allow icmp from any to any. Aufovra apidrio: 200

1.12| Nat uai zo 2 ping eival Enizuxi

1.13| H traceroute oedver natiq UDP uai zo firewall dev unapxa
natiq uai zo enipene uai nepuere

traceroute -l 192.168.1.3 ~> Tipa zo traceroute oedver
natiq icmp uai enipexy qidc npouzerpius

1.14] ipfw add allow udp from me to any

1.15] ssh lab@192.168.1.3 → Permission denied

1.16] ipfw add allow tcp from me to any setup

ipfw add allow tcp from any to any established

1.17] ipfw zeros

ssh lab@192.168.1.3

ls

exit

1.18] #Kavives → copies experiments

100 → allow ip from any to any

200 → allow icmp from any to any

300 → allow udp from me to any

400 → allow tcp from me to any setup

500 → allow tcp from any to any

1.19] Ox, Seven proposals (ssh lab@192.168.1.2). Aver experiment varia
mining nei pezzi and 2im uipa epeswizor zo punuva:
"Operation timed out". Hicis orpbeiver enelbi kavives and eas
kavives now excuse apices owo Firewall Seven epeswizor tcp repxia
pe empires SYN=1, ACK=0 and owo pampotes punxamperzo.

1.20] service ftpd onstart

1.21] ftp lab@192.168.1.3

get /usr/bin/..

Autorun 2

2.1) ~~Wl~~ load ipfw

2.2) ping 192.168.1.2 → Permission denied

2.3) ipfw add allow all from any to any via lo0

2.4) ipfw add allow icmp from me to any icmp-types 8

2.5) ping 192.168.1.2 → Den noiprropes mano surroun

2.6) ipfw zero

~~ipfw~~ ping -c 1 192.168.1.2

ipfw show

0 octetos reçus deu nenhuma conexão aberta nenhuma. Once
→ ICMP nenhuma

2.7) ipfw delete 200

ipfw add allow icmp from me to any icmp-types 8 keep-state.

ping 192.168.1.2 → Entraix.

2.8) Na propósito va inserir ping user and co PC1 comandos.

2.9) Especificar na ping, Encaminhe ping and co PC1 ou co PC2 vai encarregar
vai. Avisos originais para transmissão e return and co PC2 ou co PC1
(ping and PC2 ou co PC1) na origem especificar em aplicações return ou
LAN (exemplo exer. 2.7). Nesse caso ICMP requests chegarão direto
and co firewall co PC2.

2.10) ipfw add allow icmp from ~~any~~ to me icmp-types 8 keep-state.

2.11) Entraix and com origens novas, mas especificar vai com Surpreender
Dynamic Rules (1 136)

00300 16 1349 (55) STATE icmp 192.168.1.2 o↔ 192.168.1.3 0: default

2.12 | B7enoupe ois o Swannos mounas ois Surbaapei

2.13 | iphr add allow udp from our to we

iphr add allow icmp from we to our | cryptypes 3.

2.14 | iphr add allow udp from we to our

iphr add allow icmp from our to we | cryptypes 3.

2.15 | iphr add allow udp from our to we 33435-33626

2.16 | iphr add allow tcp from 192.168.1.0/24 to we 22 keep-state.

2.17 | Me zw 55h lab @ 192.168.1.3

2.18 | iphr add allow tcp from we to our 22 keep-state.

2.19 | iphr add allow tcp from 192.168.1.3 to we 22 setup keep-state.

2.20 | step lab @ 192.168.1.3

get /etc/route.conf ~> Net propoipe

2.21 | Ftp lab @ 192.168.1.3 ~> Aor propoipe paci to Ftp xpruporoi ei zw
oupa 21 (Escape spioi zw zw nro 22)

iphr add allow tcp from our to we 21 keep-state.

2.22 | H npoia, evzoli enedjeza, enizwir moudis mopoie mounas ois
firewall zw zw lipo 22. H Seizgh, evzoli anouxxoier paci
mounape ois Extended Passive Mode, ois enedjeza, lipo
zw zw onia fir unipes mounas ois Firewall zw PC2.

2.23 | iphr add allow tcp from 192.168.1.2 to we 1024-65535 keep-state

2.24 | Ftp lab @ 192.168.1.3

get /etc/usr/bin/group ~> Mopoipe va naeboope.

2.25 | ipfw add allow tcp from 192.168.1.3 to me keep-state (PC₁)
ipfw add allow tcp from me to 192.168.1.2 keep-state (PC₂)

2.26) Σε πρωτότυπα σήματα της χρειάζεται να αρχίσει με μέσην
μέσην για τα firewalls, ανάλογα με τις διφέρεντες χρησηποδοσιών
της κατηγορίας των επικοινωνιών. Οι συνέπειες είναι τα μόνα
να διέπει πότες οδηγούνται σε αδιάνειτη λειτουργία.

2.27 | Veldunlaad ipfw } μεν ορε 2 PC's
kldstat

Ενθεούμενη στα firewalls είναι η ανεπιφορικότητα

Autorun 3

3.1 hostnames PC1

IPconfig and 192.168.1.3/24

route add default 192.168.1.1

hostnames PC2

IPconfig and 192.168.1.3/24

route add default 192.168.1.1

3.2 cli

configure terminal

hostname R1

interface eth0

IP address 192.0.2.2/30

interface eth1

IP address 192.0.2.6/30

3.3 hostnames SRV1

IPconfig and 192.0.2.5/30

route add default 192.0.2.6

3.4 service Rtpol onestart

3.5 kldstat ~> Exam yappundi ~> usrpnel

inetmu

subbus

ipfw

ipfw_nat

libalias.

3.6 To ipfw

3.7 sysrc firewall_type ~> unknown

3.8 ipfw show ~> 11 entries

Telnetrios o "deny ip from any to any."

3.9) ipfw nat show config \rightarrow 0x.

3.10) ping 192.168.1.1 } \rightarrow 2 answers from 2 Ser Layer3 interface
ping 192.0.2.1 answers

3.11) ping 192.0.2.1 \rightarrow Nid Ser Layer3 interface answers

3.12) ipfw nat 123 config unreg - only if em1 reset.

3.13) ipfw add nat 123 ip4 from any to any

3.14) Nat proprie

3.15) topdump -i em0 -n

3.16) ipfw show & ipfw zero

3.17) ping -c 3 192.0.2.2 \rightarrow nupi icmp echo request: 192.0.2.1

3.18) Kon.edu in 192.0.2.1

3.19) 01100 nat 123 ip4 from any to any

3.20) 12 yopeis, oridman 6 numero mai ja veide numero Esporta Teca,
2 yopeis

3.21) ping 192.0.2.1 \rightarrow Enizuxes

3.22) ipfw zero (FW1)

ping -c 1 192.0.2.1 (SRV1)

ipfw show (FW1) \rightarrow Yneidwos einai o ifos vromes pe ω (3.19)

3.23) H vromes Ser vleita, niss perzappoeris siendivouj jazi in 192.0.2.5
Ser Einai, grawm

3.24| ssh lab@192.0.2.5 ~ No connection

3.25| Έχει σερβις ssh lab@192.168.1.3 ~ No route to host.
Προβλήμα διαπλούσης, ο R2 δεν μπορεί να τα LAN

3.26| ipfw nat 123 config unreg-only IP and reset redirect_addr 192.168.1.3
192.0.2.1

3.27| ssh lab@192.0.2.1 ~ Επιτυχία, ουδέποτε υπό PC2, το
να τα βρίσκει ανά την πρόσθια εντολή "lab@PC2:~"

3.28| ipfw nat 123 config unreg-only IP and reset redirect_addr
192.168.1.3 192.0.2.1 redirect-port tcp 192.168.1.2:22 22

3.29| ssh lab@192.0.2.1 ~ Αυτή είναι η πρώτη συνάντηση αρχ PC1
Το έξαρσε περισσότερο από ποτέ (3.27)

3.30| Άνευ ουρανού,

3.31|

Autorun 4

4.1] ipfw disable one-pass (FWI)

ping 192.168.1.1 (PC1) } → however ping Server 1
ping 192.0.2.1 (SRV1) }

4.2] Howeveras xprios zev ipfw show user, zu fespeziu zu ping, negezpon
ne zev perecies xprios zev hewiva 01100 nat 123 ipfw from out to our
va enjizivari. Enzis aneppronoizape zo one-pass, u enzefezia nemec
npoxpries zev Enzis hewiva, eoz nepsiv and zev hewiva 65535
0 andis zepazder zu hiver

4.3] ipfw delete 1100

ipfw add 1100 allow all from any to our via em1

4.4] Port zu 2 Enzixi

4.5] ssh lab @ 192.0.2.1 → ne ipfw fesizivizape si example on Sevei
o FWI

4.6] ipfw show → 01 per pusevnoi perecies feixvovv zev hewives ne
xpumponidman. 00100 allow ip from our to our via lo0
01100 allow ip from our to our via em1
65535 deny ip from any to any

add

4.7] ipfw add 3000 nat 123 all from any to any xmit em1

4.8] ipfw add 3001 allow all from our to our

~~4.9] ipfw add 2000 nat 123 all from any to any recv em1~~

4.10] ipfw add 2001 check-state

4.11] ping 192.0.2.1 → Anwaeis o FWI

4.12] ping 192.0.2.1 ~

4.13] ssh lab@192.0.2.1 ~ Ew FW1

4.14] ssh lab@192.0.2.1 ~ Ew PC1

4.15] ftp lab@192.0.2.1 ~ Ew PC2

4.16] ping 192.0.2.5 ~ Nai

4.17] ssh lab@192.1.0.2.5 ~ Nai

4.18] ftp lab@192.0.2.5 ~ EnvServer
ls /etc
get /etc/file } EnvServer

4.19] ipfw add 2999 deny all from any to any via env

4.20] PC1 ping ~ EnvServer
SRV1 ping ~ EnvServer
PC1 ssh ~ EnvServer
SRV1 ssh ~ EnvServer
SRV1 Ftp ~ EnvServer
PC1 ping 192.0.2.5 ~ EnvServer
PC1 ssh 192.0.2.5 ~ EnvServer
PC1 Ftp 192.0.2.5 ~ EnvServer

4.21] ipfw add 2500 skip to 3000 icmp from any to any via env keep-state

4.22] Nai

4.23] ipfw add 2600 skip to 3000 tcp from any to any 22 out via env keepstate.

4.24] Monopaine na ourSeipne.

4.25] ipfw add 2000 skip to 3000 icmp from any to any in via env
keep-state.

4.26] ping 192.0.2.1 ~> \rightarrow PC2

4.27] ipfw add 2200 skip-to 3000 tcp from em1 to any 22
recv em1 keep-state

4.28] echo PC1

4.29] 0x,

setup

4.30] ipfw add 2700 skip-to 3000 tcp from any to any 21 recv em1
keep-state

setup.

ipfw add 2701 skip-to 3000 tcp from any 20 to any out via
em1 keep-state.

Aanman 5

5.1 | 192.168.1.1

5.2 | 10.0.0.1

5.3 | Status → System → Memory Usage = 34%. Aan de deur is juist 66%

5.4 | 4 Signaal en functie

5.5 | H 172.22.1.1/24

5.6 | hostname = fw

5.7 | Alle Taakje zo fw de fw1 niet mocht save

5.8 | Den vrije port van de wan.

5.9 | And zo vervol interfrees → WAN → Static IP configuration
IP address = 192.0.2.1/30, Gateway = 192.0.2.2, Every now en dan Blok Private networks niet racen save

5.10 | Firewall → Rules → WAN : Super User, waardoor "Block private networks"

5.11 | Services → Map, vanwege dat er een voorwaarde

5.12 | Everynow en dan in de DNS forwarder niet racen save.

5.13 | Nieuw enable zo IPv4 DHCP server op LAN niet dat zo Range onto 192.168.1.2 met 192.168.1.3

5.14 | DHCP client end

IP: 192.168.1.2

Gateway: 192.168.1.1

Port: 67.

5.15] Av n enzori DNS forwarder eival enabled, n DHCP unsperr
(on eival val swai engejano, upmēn) Da Zerappi nei ws Eßunsperrung
DNS na zuw medaces DHCP. Es äldz repinawen da npeines va
opioape zuw Eßunsperrung, DNS xapouirne.

5.16] Diagnostics → DHCP Leases

5.17] Bérouue S appoapeis

5.18] ping 192.168.1.1 ~> Host is down

5.19] Bérouue zuw 50 nro nrospaces macappes naneuv anò co firewall

5.20] Diagnostics → Firewall States : Bérouue 4 States

5.21] Firewall → Rules : Noueian

5.22] Firewall → Rules → ~~WAN~~, receive as "+" jra va nroderoupe nanova
Action : Pass

Interface : LAN

Protocol : Any

Source : Type : LAN subnet

Destination : Type = any . Save war Apply changes

5.23] ping 192.168.1.1 ~> Enizxes

ping 192.0.2.1 ~> Enizxes

ping 172.22.1.1 ~> Enizxes

5.24] ping 192.0.2.1 ~> Nei lapberapte enizxes

5.25] arp -a ~> Nai unspex

5.26] Firewall - Rules - WAN

Action : Pass

Interface : WAN

Protocol : ICMP

- ICMP type: any
Source: Type: any
Destination: Type: WAN address. Save na! Apply changes.
- S.27] ping 192.0.2.1 ~> Enizxes
- S.28] ping 192.168.1.2 ~> No route to host, Denne seer vir enizxes
Esperen oor nivou sporadique van R1 na ~ 192.168.1.2.
- S.29] ~~No~~ Ping Enizxes, jieca, nekappens van firewalls van Srv1
Srv1 na firewalls van firewall van WAN.
- S.30] Oxi, seer paspoort seer example default gateway van SRV1
- S.31] route add default ~~192.22.1.1~~ 172.22.1.1
- S.32] ping 172.22.1.2 ~> Enizxes
- S.33] Den laaste enizxes van eno ened si seer example opies oso
FW1 konsol vanova na seer enizxes, eteprievy kivun eno to
DMZ.
- S.34] Ifra na za (S.33)
- S.35]
- S.36] Na!
- S.37] Na!
- S.38] No route to host
- S.39] Na!. Example default gateway na oso FW1 na oso SRV1 onice n kivun
kazendwees, npos zo R1.