2STON™ SPNBox
X86 Series

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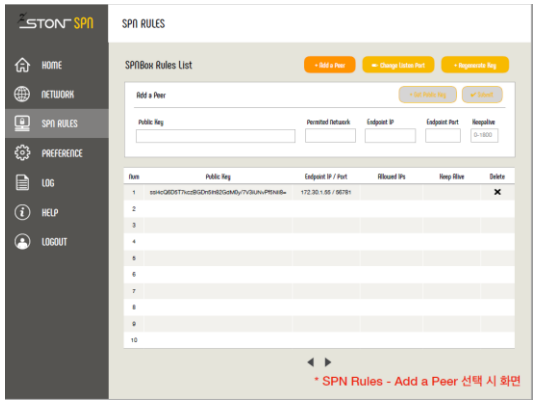
1. SPNBox Series(1)

SPNBox-ARM 초소형 Series




```
espressobin(config)#
  bridge        Add/modify the bridge information
  date          Set the date
  dhcp-server   Configure the dhcp server
  enable        Modify enable password parameters
  exit          Exit current mode and down to previous mode
  firewall      Configure firewall rules
  hostname      Set system's network name
  ip            IP information set
  logging       Configure the logging
  nameserver    Configure the dns server
  no            Negate a command or set its defaults
  password      Modify password parameters
  ping          Send echo messages
  show          Show running system information
  spn           Configure SPN rules
  ssh           Open a ssh connection
  write         Write running configuration to memory, network, or terminal
espressobin(config)#
espressobin(config)# show running-config
#Writed on Thu Sep 13 02:20:45 2018
bridge 0 lan0 lan1
firewall enable
hostname espressobin
ip address br0 192.168.5.1 255.255.255.0
ip address spn0 10.1.1.1 255.255.255.0
ip address wan dhcp
nameserver 8.8.8.8 168.126.63.1
password 0 spYzDw1OqDeMQ
spn link-up
spn listenport 59760
!
espressobin(config)#
```

[CLI]

SPNBox-1400

SPNBox-1600

SPNBox-1800

SPNBox-X86 소형 Series

SPNBox-1100

SPNBox-1200

SPNBox-X86 중형 Series

SPNBox-3000

1. SPNBox Series(2)

SPNBox Models	Id/passwd	비고
1) SPNBox-E		ARM-Cortex A64, Embedded Linux, Project용 보드
2) SPNBox-G		ARM-Cortex A64, Embedded Linux, Project용 보드
3) SPNBox-R		ARM-Cortex A64, Embedded Linux, Project용 보드
4) SPNBox-Fitlet2(SPNBox-1100)		X86_64, Ubuntu 18.04 server, 판매용
5) SPNBox-IPC2(SPNBox-1200)		X86_64, Ubuntu 18.04 server, 판매용
6) SPNBox-J1900 (SPNBox-1400)		X86_64, Ubuntu 18.04 server, 판매용
7) SPNBox-D525 (SPNBox-1600)		X86_64, Ubuntu 18.04 server, 판매용
8) SPNBox-C1037 (SPNBox-1800)		X86_64, Ubuntu 18.04 server, 개발용
9) SPNBox-XD1518 (SPNBox-3000)		X86_64, Ubuntu 18.04 server, 판매용

2. SPNBox-Fitlet2(1) - Description

- Intel Apollo Lake Celeron J3455, 1.50Ghz, dual-core
- **4GB** RAM(DDR3L-SDRAM)
- **64GB** M.2
- 2 ports GbE(Intel 1211)
- 1 wireless LAN(Intel 8260)

▪여기에 NextCloud & Rocket.Chat를 얹자 ~

OS: Ubuntu 18.04

2. SPNBox-Fitlet2(2) – CLI Configuration

L3 mode CLI Configuration

```
spnbox-fitlet2(config)# show running-config
#Writed on Fri Jul 12 06:30:16 2019
dhcp-server enable eno1
hostname spnbox-fitlet2
ip address eno1 192.168.5.1 255.255.255.0
ip address enp2s0 dhcp
ip address spn0 10.1.1.33 255.255.255.0
lan port eno1
nameserver 8.8.8.8 168.126.63.1
p2p groupname 2ip vip 172.16.1.33 lport 23456 ekey goodspn server 111.92.191.49:49918
password 8 spYzDw1OqDeMQ
sfirewall enable
spn groupname 2ip id spnbox-fitlet2
spn ipallocation static
spn link-up
spn listenport 40033
spn peer 1IVoO8GCKLf6PsjGmR4bDWCc5twGZC/QhQLJgF3jqz8= allowed-ips 10.1.1.145/32 endpo
istent-keepalive off
wan port enp2s0
!
spnbox-fitlet2(config)#
```

<LAN Port Information>

- LAN port: **eno1**
- WAN port1(유선): **enp2s0**
- WAN port2(무선): **wlp1s0**

Gigabit Ethernet Ports

WLAN(802.11ac)

2. SPNBox-Fitlet2(3) – Internet Speed(w/ NAT)

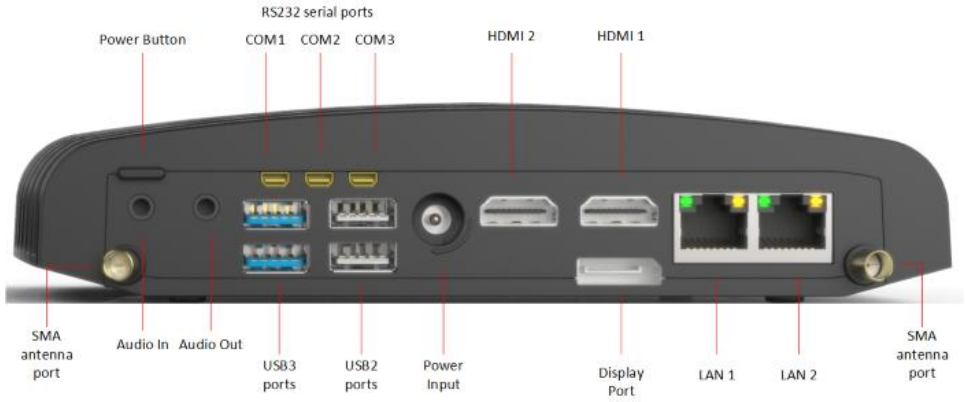
- <TBD>

Testbed: PC ⇔ SPNBox-FITLET2 ⇔ AP04 ⇔ Internet

3. SPNBox-IPC2(1) - Description

- Intel Celeron 2955U (1.4 GHz Haswell 64bit dual core)
- 2 slot Max 16GB (DDR3) : **8GB**
- 1 slot 2.5 inch HDD/SSD : **500GB**
- 2 ports GbE(Intel 1211)
- 1 wireless LAN(Intel 8260, 802.11ac + Bluetooth)

- **여기에 NextCloud & Rocket.Chat를 얹자 ~**



OS: Ubuntu 18.04

3. SPNBox-IPC2(2) – CLI Configuration

L3 mode CLI Configuration

```
spnbox-ipc2> en
spnbox-ipc2# show running-config
#Writed on Mon Aug  5 06:54:35 2019
dhcp-server enable enp0s25
hostname spnbox-ipc2
ip address enp0s25 192.168.5.1 255.255.255.0
ip address enp2s0 dhcp
ip address spn0 10.1.1.1 255.255.255.0
lan port enp0s25
nameserver 8.8.8.8 168.126.63.1
password 8 spYzDw1OqDeMQ
sfirewall enable
spn link-up
spn listenport 59760
wan port enp2s0
!
```

<LAN Port Information>

- LAN port: **enp0s25**
- WAN port1(유선): **enp2s0**
- WAN port2(무선): **wlp3s0**

Gigabit Ethernet Ports

WLAN(802.11ac)

3. SPNBox-IPC2(3) – Internet Speed(w/ NAT)

- <TBD>

Testbed: PC ⇔ SPNBox-IPC2 ⇔ AP04 ⇔ Internet

4. SPNBox-J1900(1) - Description

SPNBox-J1900(**SPNBox-1400**)

- Intel J1900 Quad Cores 2.00GHz
- 2GB RAM(DDR3)
- 16GB SATA HDD
- 4 ports GbE(Intel 82583V)
- 1 Cisco compatible RJ45 serial console(115200/8N1)

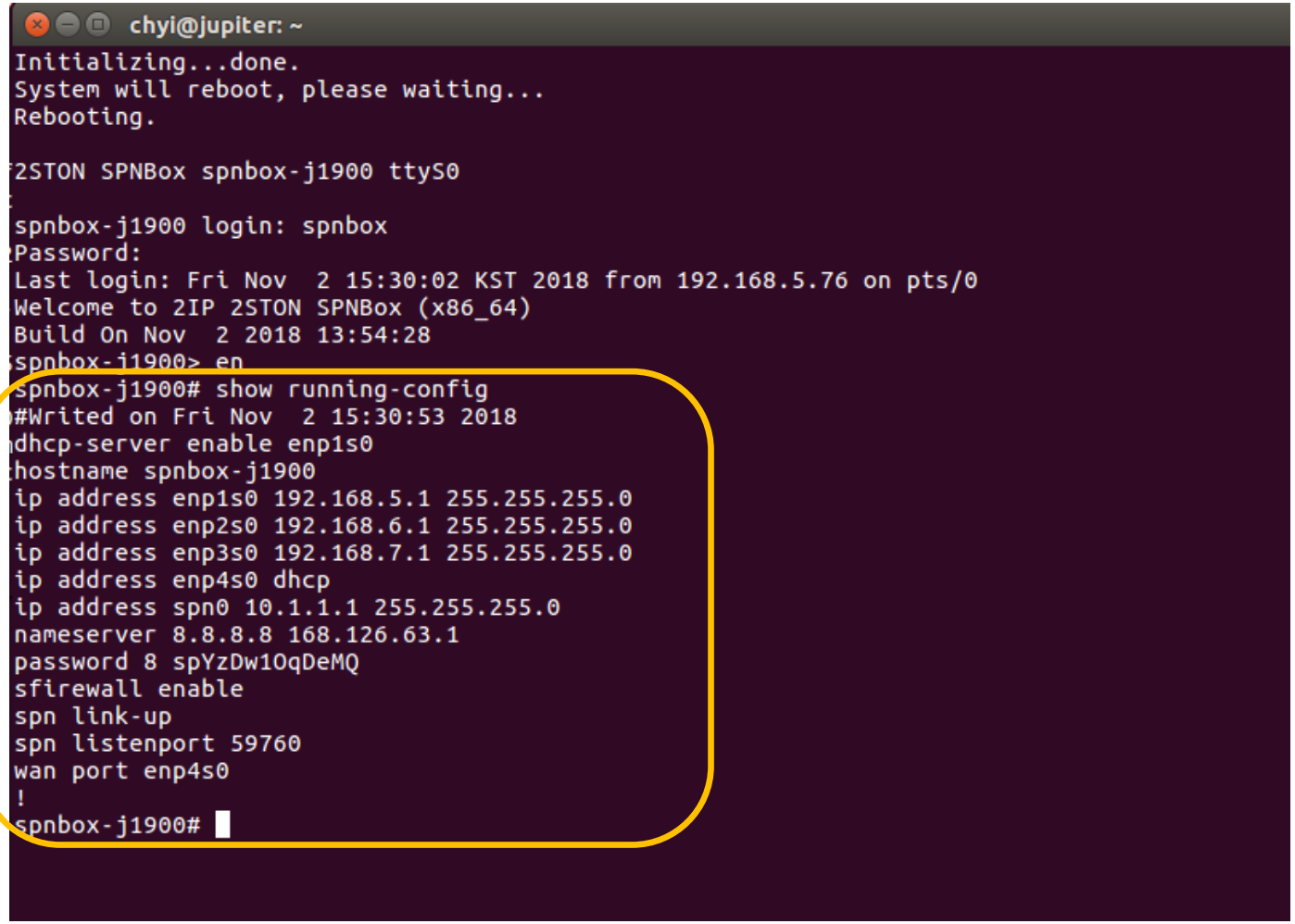
Gigabit Ethernet Ports

LAN1	LAN2	LAN3	WAN

L2 or L3 구성 가능(default: L2)

4. SPNBox-J1900(2) – CLI Configuration

L3 mode CLI Configuration

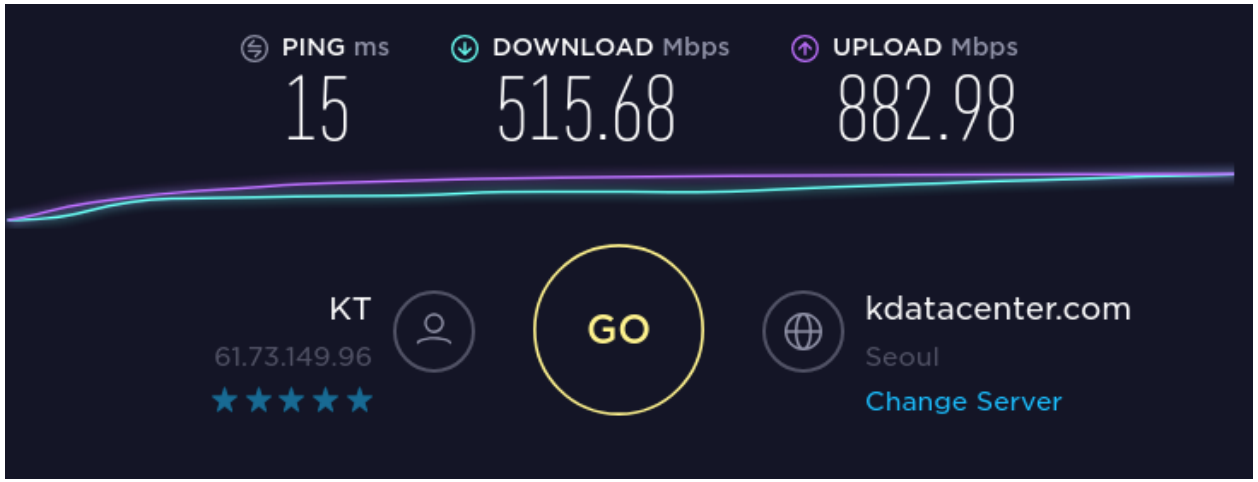


L2 mode CLI Configuration

bridge 0 all all
dhcp-server enable br0
hostname spnbox-j1900
ip address br0 192.168.5.1 255.255.255.0
ip address enp4s0 dhcp
ip address spn0 10.1.1.1 255.255.255.0
nameserver 8.8.8.8 168.126.63.1
password 8 spYzDw1OqDeMQ
sfirewall enable
spn link-up
spn listenport 59760
wan port enp4s0
!

4. SPNBox-J1900(3) – Internet Speed(w/ NAT)

Testbed: PC ⇔ SPNBox-J1900 ⇔ AP04 ⇔ Internet



L3 mode(LAN1 ~ LAN3)

L2 mode(LAN1 ~ LAN3)

5. SPNBox-D525(1) – Description

SPNBox-D525(**SPNBox-1600**)
데모용 장비

- Intel Atom d525 Dual Core 1.8 GHz
- 4GB RAM(DDR3)
- 1 miniPCIe SATA(mSATA), 128GB
- 6 ports GbE(Intel 82583V)
- 1 RS232(Cisco compatible RJ45 serial console) (115200/8N1)

Gigabit Ethernet Ports

LAN1 (ens32)	LAN2 (ens33)	LAN3 (ens34)	LAN4 (ens35)	LAN5 (ens36)	WAN (ens37)

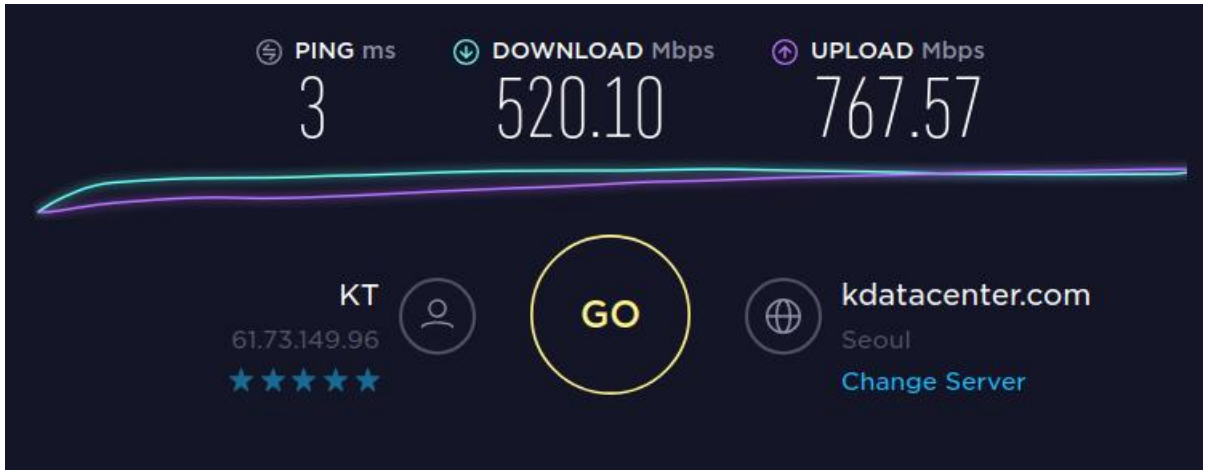
L2 or L3 구성 가능(default: L2)

5. SPNBox-D525(2) – CLI Configuration & Speed Test

L2 mode CLI Configuration

```
spnbox-d525# show running-config
#Writed on Thu Nov 15 14:03:40 2018
bridge 0 all all
dhcp-server enable br0
hostname spnbox-d525
ip address br0 192.168.5.1 255.255.255.0
ip address ens37 dhcp
ip address spn0 10.1.1.1 255.255.255.0
lan port br0
nameserver 8.8.8.8 168.126.63.1
password 8 spYzDw1OqDeMQ
sfirewall enable
spn link-up
spn listenport 59760
wan port ens37
!
spnbox-d525#
```

Testbed: PC ⇔ SPNBox-D525 ⇔ AP04 ⇔ Internet



(*) AP04 공유기가 없는 상태에서 속도를 측정해야 한다.

6. SPNBox-C1037(1) - Description

SPNBox-C1037(**SPNBox-1800**)
개발용 장비

- Intel Ivy Bridge Celeron dual-core C1037U 1.8GHz
- 8GB RAM(DDR3)
- 120GB SATA HDD
- 8 Ports GbE(Intel 82583V), 1 Ports SFP(GbE)
- 1 Cisco compatible RJ45 serial console (115200/8N1)

Gigabit Ethernet Ports

LAN1	LAN2	LAN3	LAN4	LAN5	LAN6	LAN7	WAN1

SFP1	SFP2

WAN2 WAN3

L2 or L3 구성 가능(default: L2)

6. SPNBox-C1037(2) - CLI Configuration

L3 mode CLI Configuration

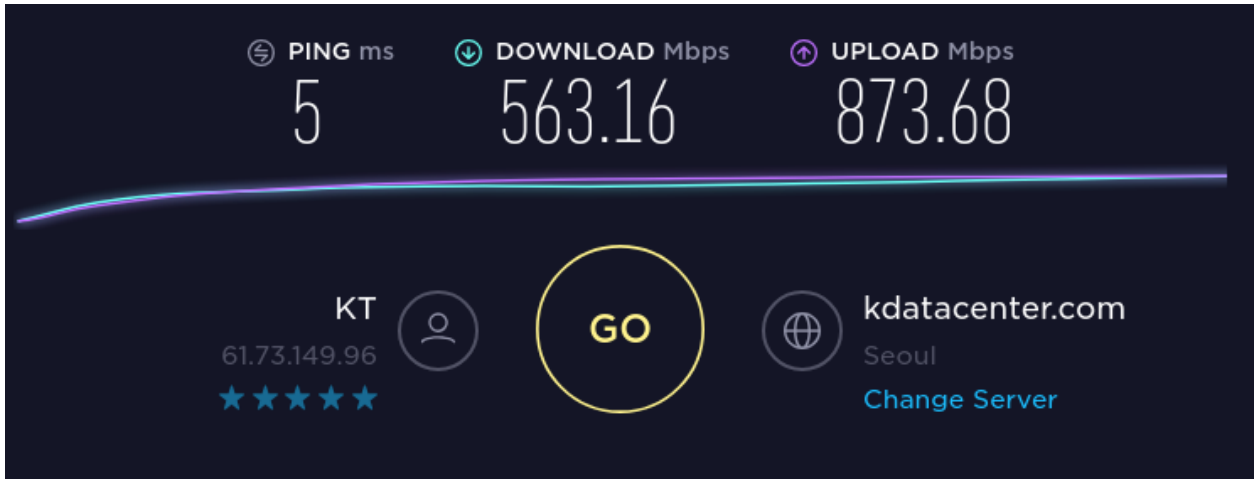
```
chyi@jupiter:~$ ssh spnbox@192.168.2.1
The authenticity of host '192.168.2.1 (192.168.2.1)' can't be established.
ECDSA key fingerprint is SHA256:ur4F2q15zvF/takMFBNUL1Bqb58FXZM3Y/vyP7o42YA.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.2.1' (ECDSA) to the list of known hosts.
spnbox@192.168.2.1's password:
Welcome to 2IP 2STON SPNBox (x86_64)
Last login: Fri Nov  2 16:35:38 2018
Build On Nov  2 2018 16:26:25
spnbox-c1037> en
spnbox-c1037# show running-config
#Writed on Fri Nov  2 16:37:11 2018
dhcp-server enable enp2s0
hostname spnbox-c1037
ip address enp2s0 192.168.2.1 255.255.255.0
ip address enp3s0 192.168.3.1 255.255.255.0
ip address enp4s0 192.168.4.1 255.255.255.0
ip address enp5s0 192.168.5.1 255.255.255.0
ip address enp6s0 192.168.6.1 255.255.255.0
ip address enp7s0 192.168.7.1 255.255.255.0
ip address enp8s0 192.168.8.1 255.255.255.0
ip address enp9s0 dhcp
ip address spn0 10.1.1.1 255.255.255.0
nameserver 8.8.8.8 168.126.63.1
password 8 spYzDw1OqDeMQ
sfirewall enable
spn link-up
spn listenport 59760
wan port enp9s0
!
spnbox-c1037#
```

L2 mode CLI Configuration

```
chyi@jupiter:~$ ssh spnbox@192.168.2.1
spnbox@192.168.2.1's password:
Welcome to 2IP 2STON SPNBox (x86_64)
Last login: Fri Nov  2 17:08:00 2018
Build On Nov  2 2018 16:48:28
spnbox-c1037> en
spnbox-c1037# show running-config
#Writed on Fri Nov  2 17:10:17 2018
bridge 0 all all
dhcp-server enable br0
hostname spnbox-c1037
ip address br0 192.168.2.1 255.255.255.0
ip address enp9s0 dhcp
ip address spn0 10.1.1.1 255.255.255.0
nameserver 8.8.8.8 168.126.63.1
password 8 spYzDw1OqDeMQ
sfirewall enable
spn link-up
spn listenport 59760
wan port enp9s0
!
spnbox-c1037#
```

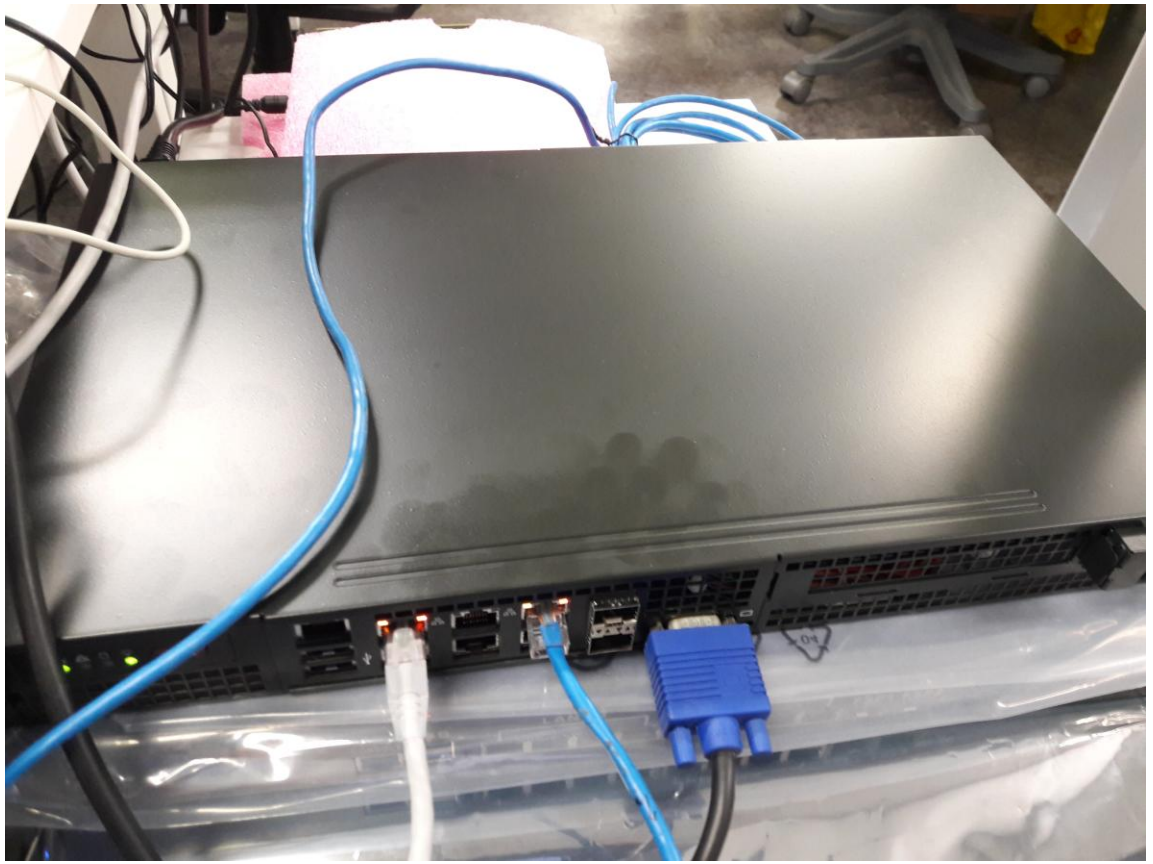
6. SPNBox-C1037(3) - Internet Speed(w/ NAT)

Testbed: PC ⇔ SPNBox-J1900 ⇔ AP04 ⇔ Internet



L2 mode(LAN1 ~ LAN7)

7. SPNBox-XD1518(1) – Description(1)



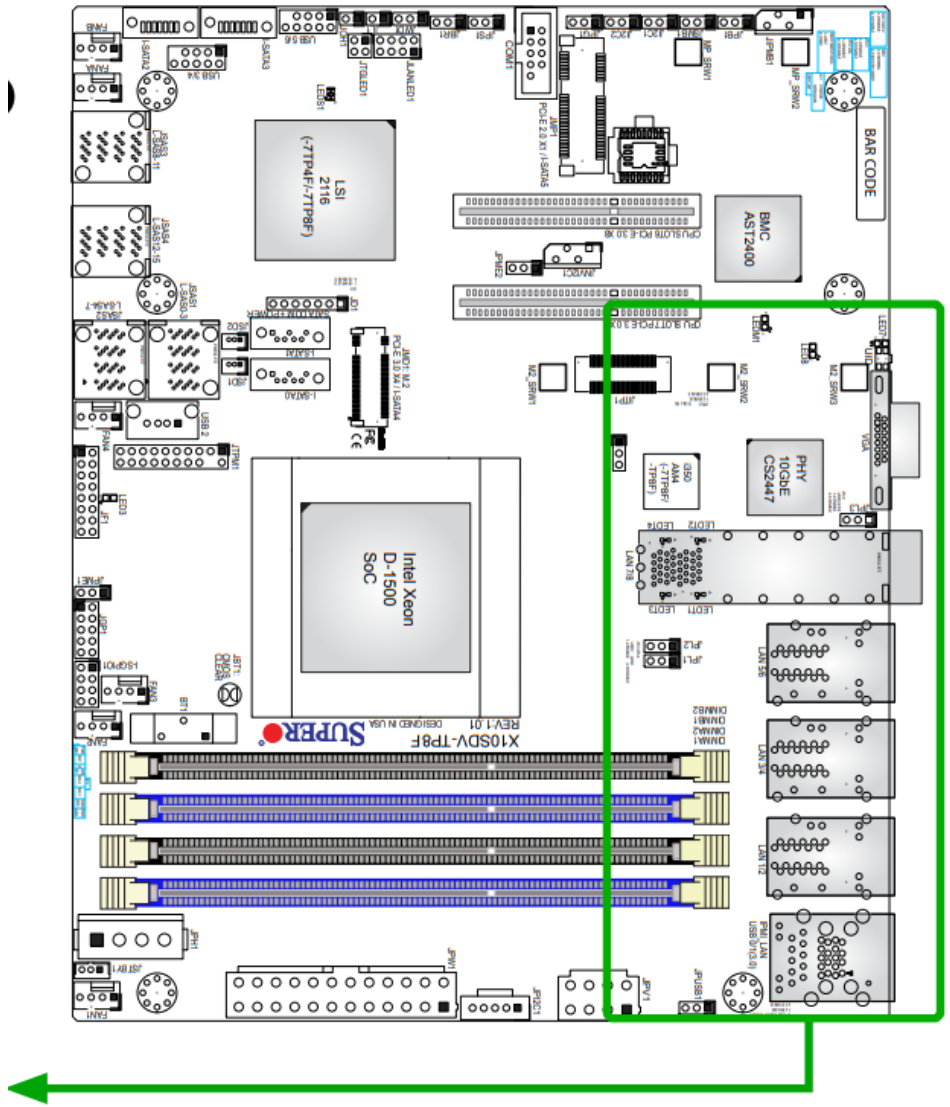
SPNBox-XD1518(**SPNBox-3000**)

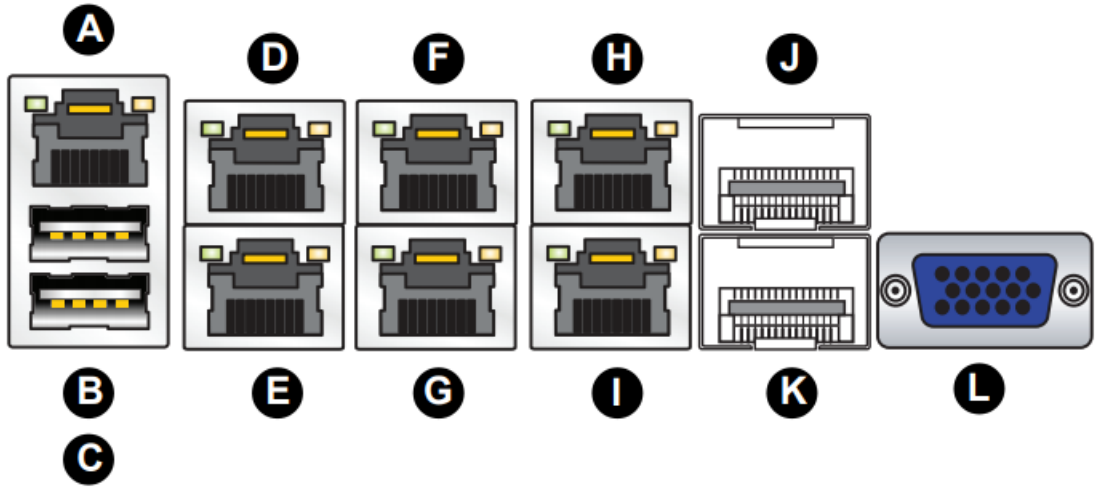
Product ID: 5018D-FN8T

- Intel Xeon D-1518 Quad Core Processor
- Dual 10Gb SFP+ Ports
- 6 x GbE Ports(Quad 1GbE with Intel I350-AM4,
  Dual 1GbE with Intel I210)
- Dedicated IPMI Port
- Supports 64GB ECC/Non-ECC DDR4 : **8GB 장착(현재)**
- Supports M.2 (SATA and PCIe) : **1TB SATA HDD 장착(현재)**
- Supports 4 x SATA3 (1 x mSATA support)
- 200W AC-DC 80 PLUS Gold Power Supply with PFC
- Front I/O Access Mini 1U Rackmount Server
- Shallow 9.8" Depth

7. SPNBox-XD1518(1) – Description(2)

A: IPMI port
E: eno1(eth0), ip console
D: **eno2**(eth1), LAN2
G: **eno3**(eth2), LAN3
F: **eno4**(eth3), LAN4
I: **eno5**(eth4), LAN5
H: **eno6**(eth5), WAN1
K: **eno7**(eth6), 10G SFP+, WAN2
J: **eno8**(eth7), 10G SFP+, WAN3



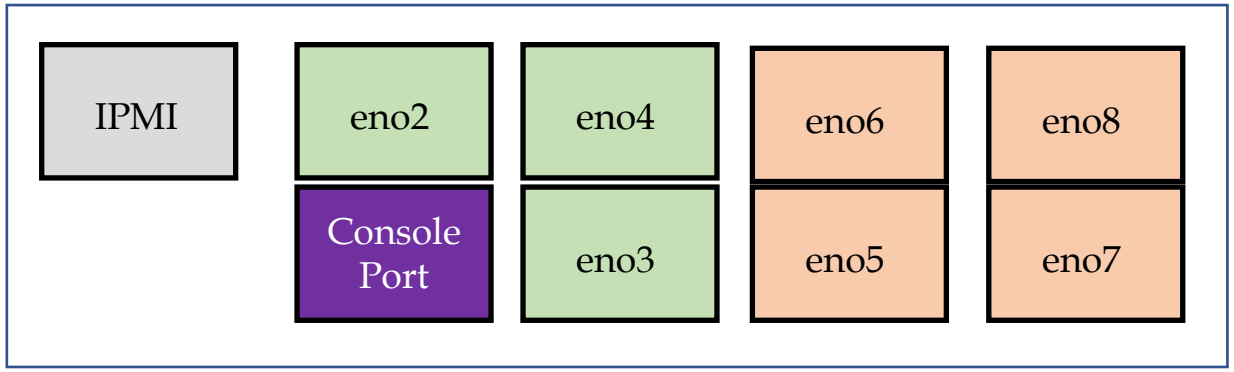


Back Panel I/O		
A. IPMI LAN	E. LAN Port 1	I. LAN Port 5 (7TP8F/TP8F only)
B. USB Port 1	F. LAN Port 4 (7TP8F/TP8F only)	J. LAN Port 8 (SFP+)
C. USB Port 0	G. LAN Port 3 (7TP8F/TP8F only)	K. LAN Port 7 (SFP+)
D. LAN Port 2	H. LAN Port 6 (7TP8F/TP8F only)	L. VGA Port

7. SPNBox-XD1518(1) – Description(3)

(참고) IPMI Port는 Supermicro에서 원격 관리를 위해 사용하는 port로 SPNBox에서는 보안 상의 이유로 사용하지 않기로 함.

<Ethernet Ports>



LAN

eno2(1G), eno3(1G), eno4(1G)
- Software bridge(L2 mode, br0 interface)로 구성됨. 즉, 하나의 대표 ip가 할당됨.

WAN

eno5(1G), **eno6**(1G), eno7(10G SFP+), eno8(10G SFP+)
default WAN port: **eno6**

Console Port

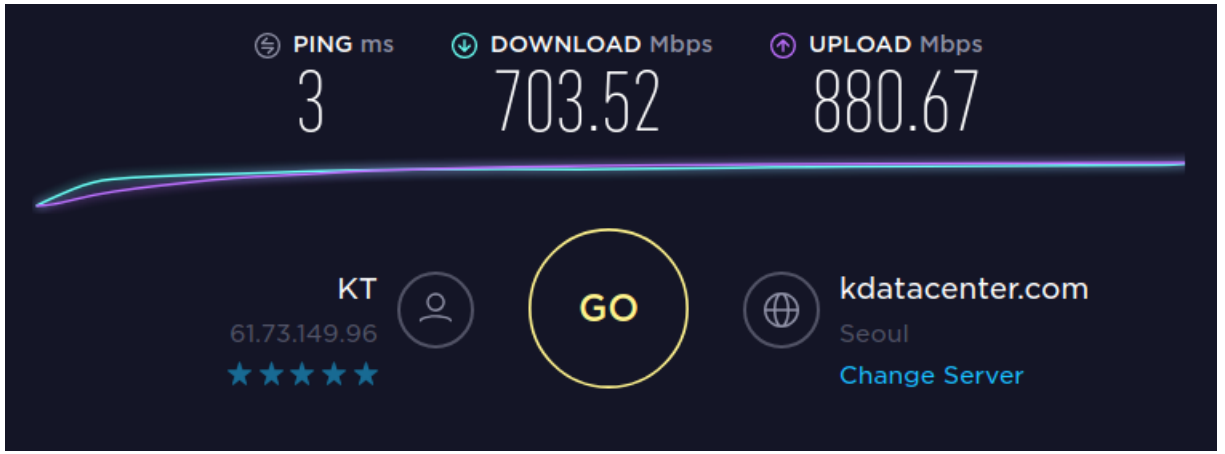
eno1(1G) – console 전용임. 여기에 연결하면 인터넷 안됨[주의]

7. SPNBox-XD1518(2) – CLI Configuration & Speed Test

L2 mode CLI Configuration

```
spnbox-xd1518#
spnbox-xd1518# show running-config
#Writed on Mon Nov 12 21:04:36 2018
bridge 0 all all
dhcp-server enable br0
hostname spnbox-xd1518
ip address br0 192.168.5.1 255.255.255.0
ip address eno6 dhcp
ip address spn0 10.1.1.1 255.255.255.0
lan port br0
nameserver 8.8.8.8 168.126.63.1
password 8 spYzDw1OqDeMQ
sfirewall enable
spn link-up
spn listenport 59760
wan port eno6
!
spnbox-xd1518#
```

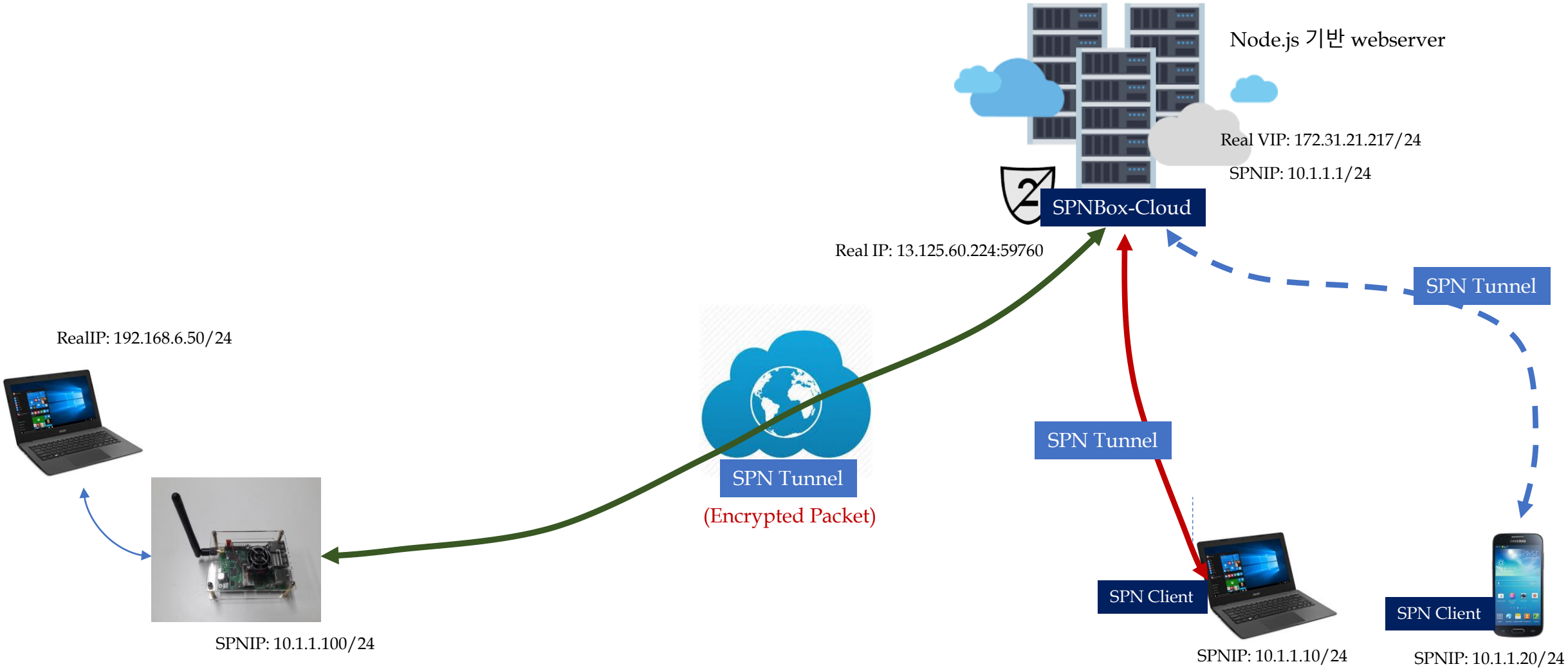
Testbed: PC ⇔ SPNBox-XD1518 ⇔ AP04 ⇔ Internet



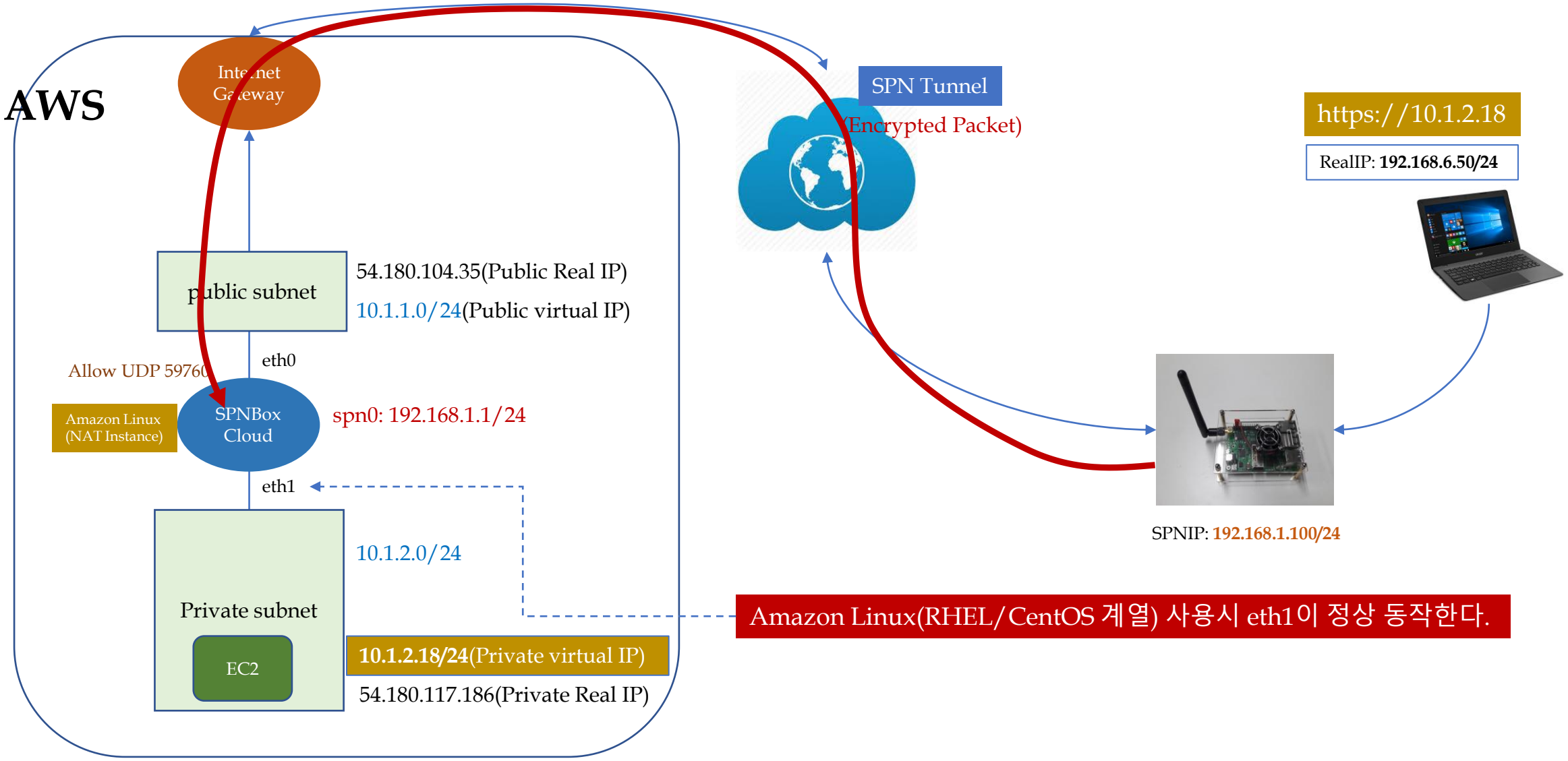
(*) AP04 공유기가 없는 상태에서 속도를 측정해야 한다.

주의: SPNBox-XD1518 장비 부팅 시간이 1분 정도 소요됨.

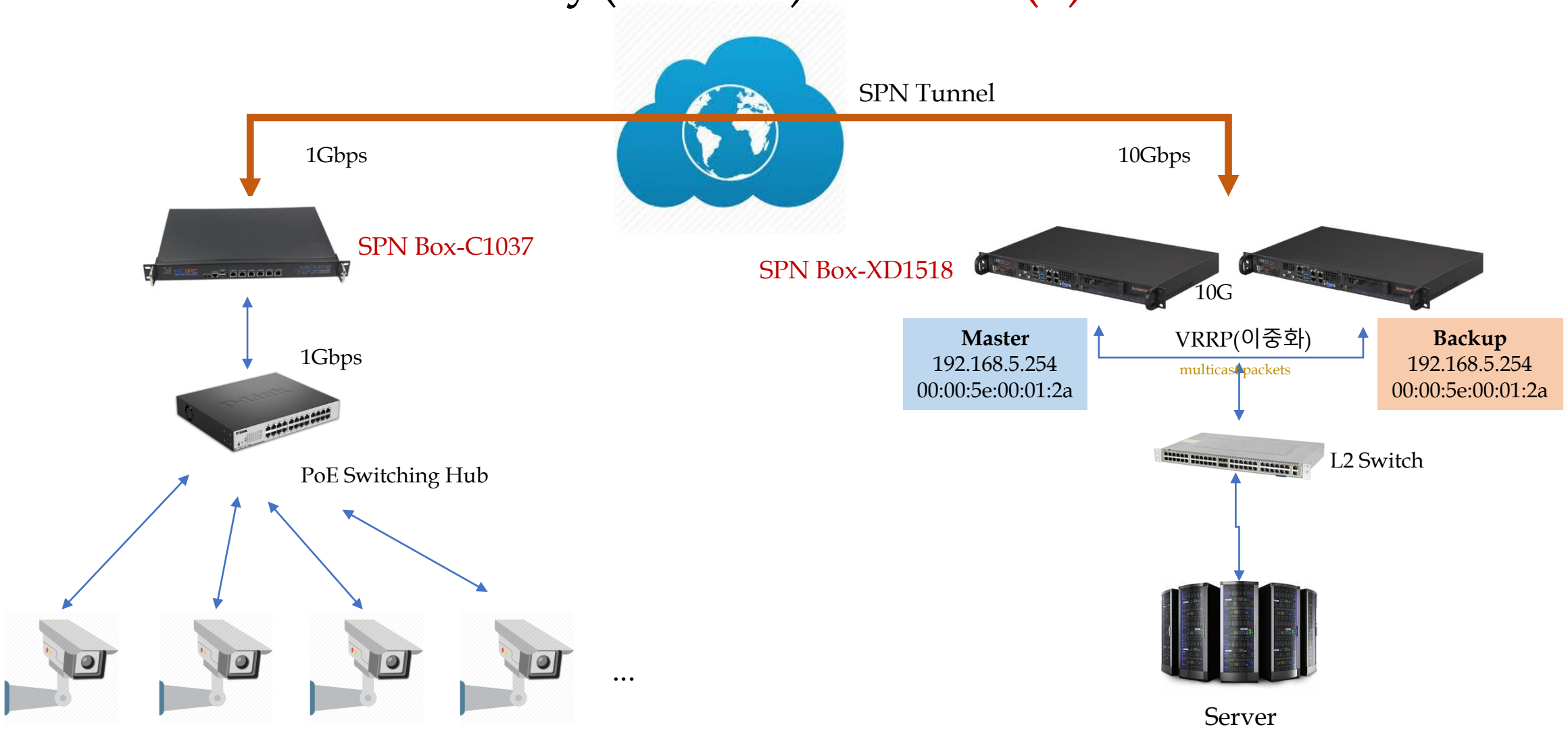
8. SPNBox Cloud(1)



8. SPNBox Cloud(2) – Amazon Linux 탑재

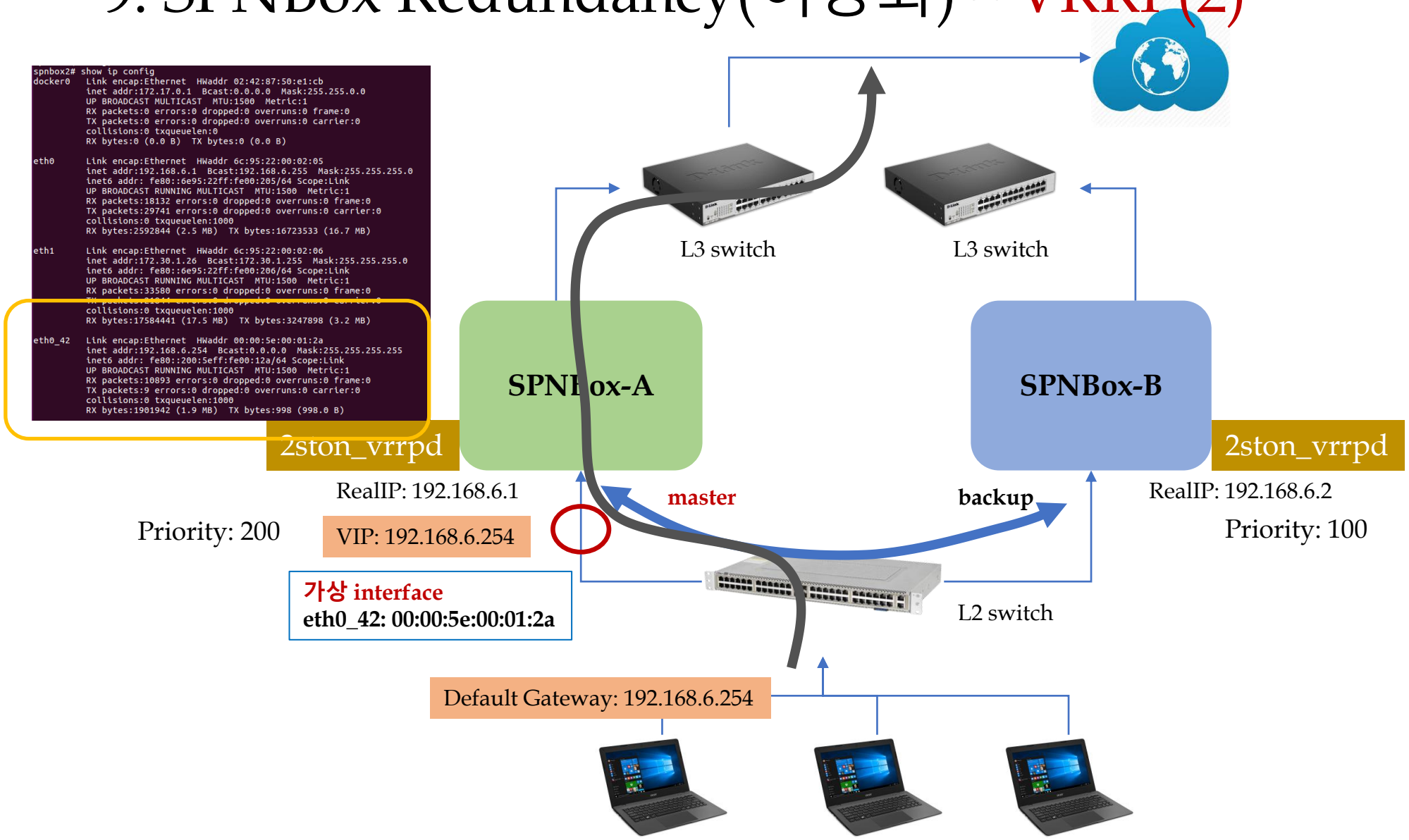


9. SPNBox Redundancy(이중화) – VRRP(1)

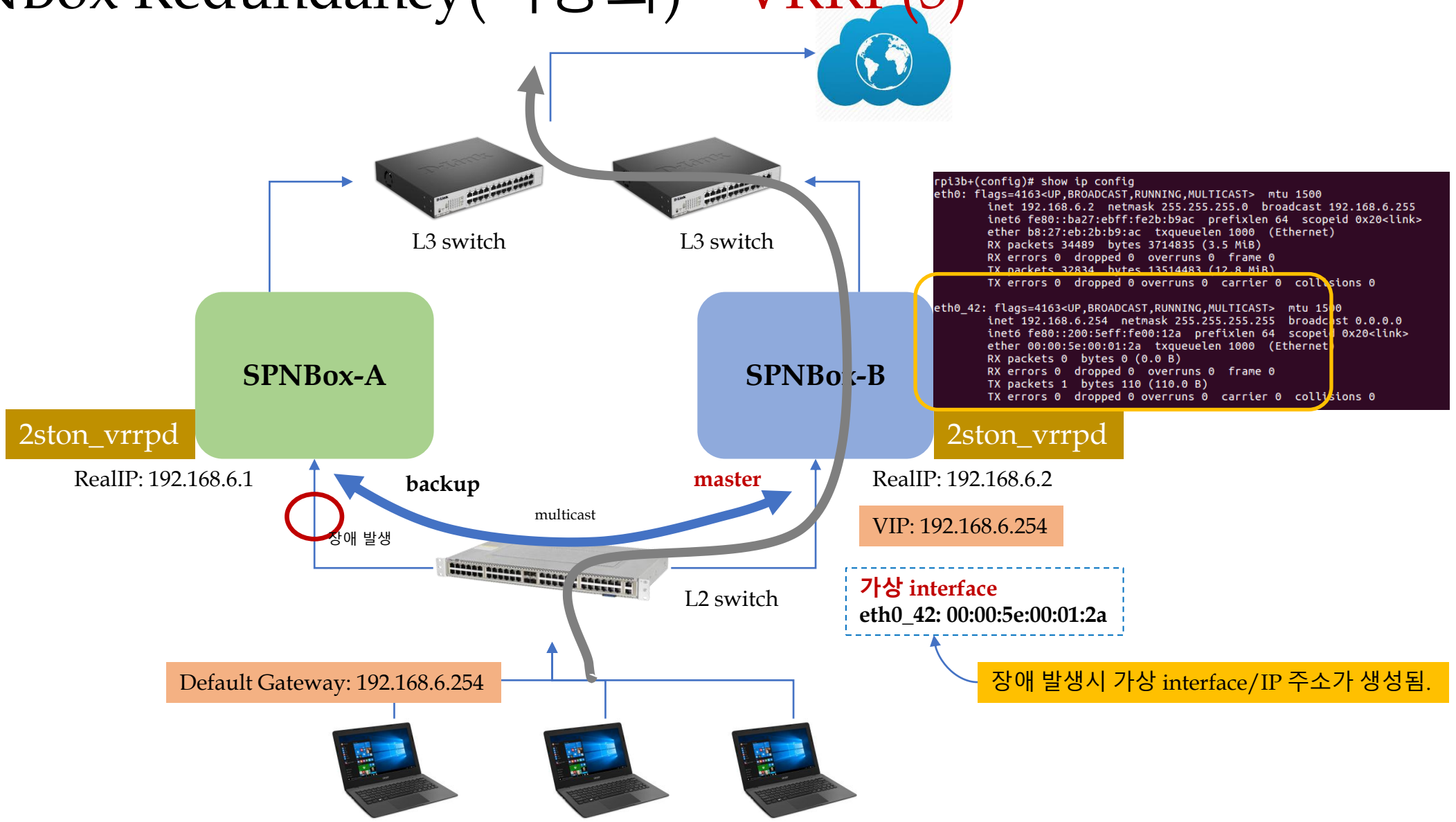


9. SPNBox Redundancy(이중화) – VRRP(2)

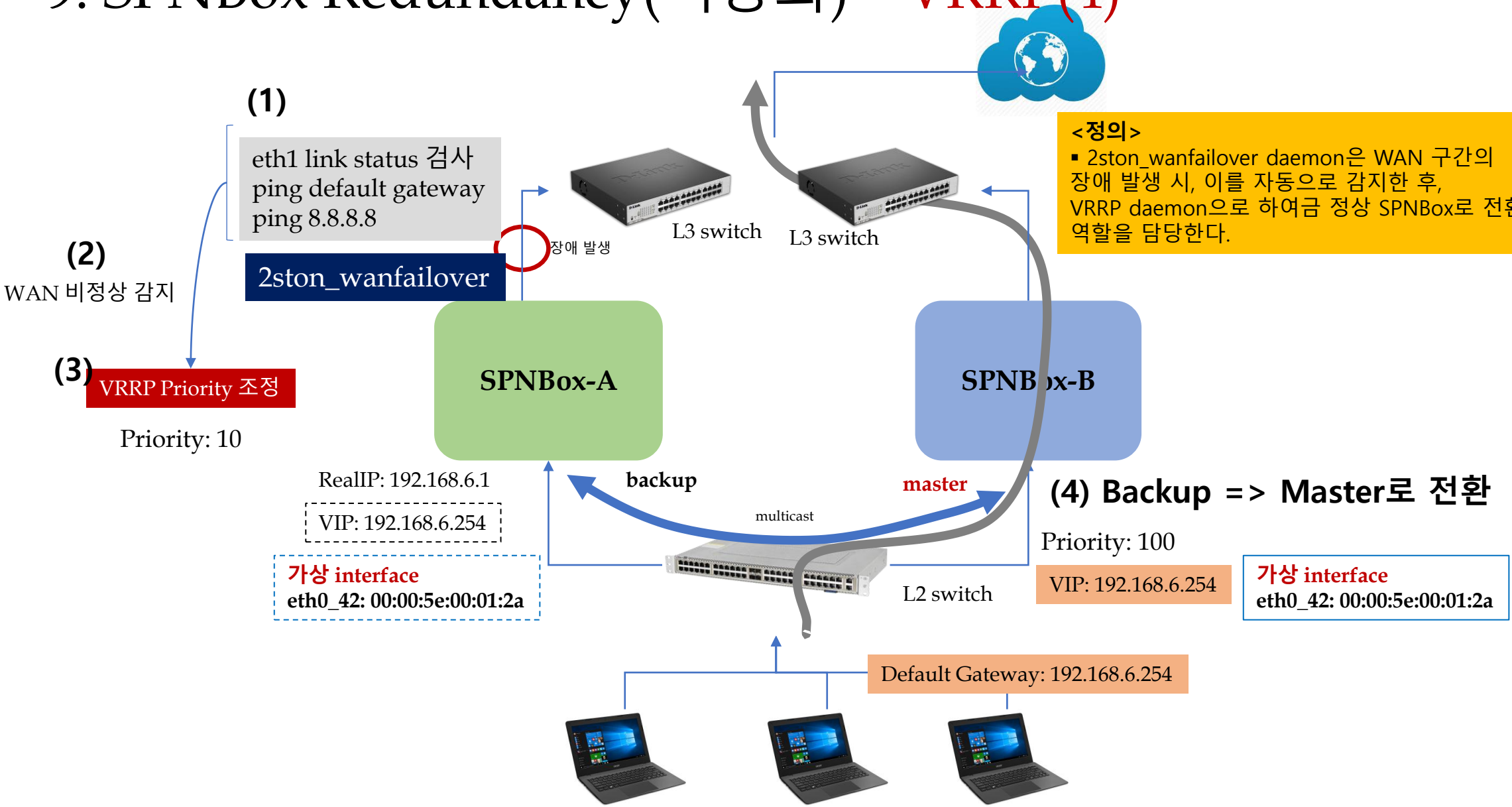
```
spnbox2# show ip config
docker0   Link encap:Ethernet  HWaddr 02:42:87:50:e1:cb
          inet addr:172.17.0.1  Bcast:0.0.0.0  Mask:255.255.0.0
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

eth0      Link encap:Ethernet  HWaddr 6c:95:22:00:02:05
          inet addr:192.168.6.1  Bcast:192.168.6.255  Mask:255.255.255.0
          inet6 addr: fe80::6e95:22ff:fe00:205/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:18132 errors:0 dropped:0 overruns:0 frame:0
          TX packets:29741 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:2592844 (2.5 MB)  TX bytes:16723533 (16.7 MB)

eth1      Link encap:Ethernet  HWaddr 6c:95:22:00:02:06
          inet addr:172.30.1.26  Bcast:172.30.1.255  Mask:255.255.255.0
          inet6 addr: fe80::6e95:22ff:fe00:206/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:33580 errors:0 dropped:0 overruns:0 frame:0
          TX packets:21041 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:17584441 (17.5 MB)  TX bytes:3247898 (3.2 MB)

eth0_42   Link encap:Ethernet  HWaddr 00:00:5e:00:01:2a
          inet addr:192.168.6.254  Bcast:0.0.0.0  Mask:255.255.255.255
          inet6 addr: fe80::200:5eff:fe00:12a/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:10893 errors:0 dropped:0 overruns:0 frame:0
          TX packets:9 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:1901942 (1.9 MB)  TX bytes:998 (998.0 B)
```



9. SPNBox Redundancy(이중화) – VRRP(3)



9. SPNBox Redundancy(이중화) – VRRP(4)



Thank You

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