

CentOS-6

インストール

CentOS-6 + RepoForge

- yum repository インストール

```
# rpm -v --install http://pkgs.repoforge.org/rpmpforge-release/rpmpforge-release-0.5.2-2.el6.rf.x86_64.rpm
```

- インストール

```
# yum install netperf
```

FW 設定

- iptables 停止または iptables 設定 + ポート指定

iptables 停止の場合

```
# service iptables stop
```

iptables 設定の場合

- /etc/sysconfig/iptables 追加設定

```
-A INPUT -m state --state NEW -m tcp -p tcp --dport 12865:12866 -j ACCEPT
```

- 標準 12865 ポートが制御用
- 12866 ポートで試験するよう、netperf コマンドで指定
- 指定がないと、ランダムに試験ポートが選ばれて iptables が拒否し失敗する。

失敗時

```
# netperf -H 192.168.61.6
TCP STREAM TEST from 0.0.0.0 (0.0.0.0) port 0 AF_INET to 192.168.61.6 (192.168.61.6) port 0 AF_INET
netperf: send_tcp_stream: data socket connect failed: No route to host
```

- 失敗時 tcpdump

```
# /usr/sbin/tcpdump -i bond0 -n -s0 -vv host 192.168.61.5 and not port 12865
```

```
tcpdump: listening on bond0, link-type EN10MB (Ethernet), capture size 65535 bytes
```

```
02:08:07.920666 IP (tos 0xc0, ttl 64, id 31669, offset 0, flags [DF], proto TCP (6), length 60)
  192.168.61.6.12867 > 192.168.61.5.37522: Flags [S], cksum 0xd4ba (correct), seq 4073764023, win
  14600, options [mss 1460,sackOK,TS val 58773250 ecr 0,nop,wscale 7], length 0
```

```
02:08:07.920756 IP (tos 0xc0, ttl 64, id 40139, offset 0, flags [none], proto ICMP (1), length 88)
  192.168.61.5 > 192.168.61.6: ICMP host 192.168.61.5 unreachable - admin prohibited, length 68
  IP (tos 0xc0, ttl 64, id 31669, offset 0, flags [DF], proto TCP (6), length 60)
```

192.168.61.6.12867 > 192.168.61.5.37522: Flags [S], cksum 0xd4ba (correct), seq 4073764023, win 14600, options [mss 1460,sackOK,TS val 58773250 ecr 0,nop,wscale 7], length 0

利用

サーバ側

```
# netserver
```

クライアント側

```
# netperf -H 192.168.61.5 -- -P 12866
```

結果

if	mode	転送速度 (Mbps)
eth0	--	
bond0	0:balance-rr x3	2243.9
bond0	0:balance-rr x2	1708.0
bond0	1:active-standby x3	941.45
bond0	2:balance-xor x3	941.2
bond0	3:broadcast x3	268.8
bond0	4:802.3ad	
bond0	5:balance-tlb	934.7
bond0	6:balance-alb	921.7

- PC1 HP ML110G7, Xeon 1220, RAM32G, HDD250G, CentOS-6.3, NIC e1000 x3
- ethernet SW: Netgear GS110T 1G x 8port
- PC2 HP ML110G7, Xeon 1220, RAM32G, HDD250G, CentOS-6.3, NIC e1000 x3

active-standby 1G x3

- mode=1 active-standby
- e1000e x3

```
# netperf -H 192.168.61.5 -- -P 12866
TCP STREAM TEST from 0.0.0.0 (0.0.0.0) port 12866 AF_INET to 192.168.61.5 (192.168.61.5) port 12866
AF_INET
Recv  Send  Send
Socket Socket Message Elapsed
Size  Size  Size  Time  Throughput
bytes bytes bytes secs.  10^6bits/sec

87380 16384 16384 10.03 941.45
87380 16384 16384 10.03 941.44
87380 16384 16384 10.03 941.45
```

balance-rr 1G x3

- mode=0 balance-rr

- e1000e x3

```
[root@ml110b nonaka]# netperf -H 192.168.61.5 -- -P 12866
TCP STREAM TEST from 0.0.0.0 (0.0.0.0) port 12866 AF_INET to 192.168.61.5 (192.168.61.5) port 12866
AF_INET
Recv  Send  Send
Socket Socket Message Elapsed
Size Size Size Time Throughput
bytes bytes bytes secs. 10^6bits/sec

87380 16384 16384 10.00 2243.21
87380 16384 16384 10.00 2238.71
87380 16384 16384 10.00 2249.81
```

balance-rr 1G x2

- mode=0 balance-rr
- e1000 x2

```
[root@ml110b nonaka]# netperf -H 192.168.61.5 -- -P 12866
TCP STREAM TEST from 0.0.0.0 (0.0.0.0) port 12866 AF_INET to 192.168.61.5 (192.168.61.5) port 12866
AF_INET
Recv  Send  Send
Socket Socket Message Elapsed
Size Size Size Time Throughput
bytes bytes bytes secs. 10^6bits/sec

87380 16384 16384 10.00 1712.52
87380 16384 16384 10.00 1704.04
87380 16384 16384 10.00 1707.50
```

balance-xor 1G x3

- mode=2 balance-xor
- e1000e x3

```
[root@ml110b nonaka]# netperf -H 192.168.61.5 -- -P 12866
TCP STREAM TEST from 0.0.0.0 (0.0.0.0) port 12866 AF_INET to 192.168.61.5 (192.168.61.5) port 12866
AF_INET
Recv  Send  Send
Socket Socket Message Elapsed
Size Size Size Time Throughput
bytes bytes bytes secs. 10^6bits/sec

87380 16384 16384 10.03 941.43
87380 16384 16384 10.03 941.03
87380 16384 16384 10.03 941.36
```

broadcast 1G x3

- mode=3 broadcast
- e1000e x3

```
[root@ml110b nonaka]# netperf -H 192.168.61.5 -- -P 12866
TCP STREAM TEST from 0.0.0.0 (0.0.0.0) port 12866 AF_INET to 192.168.61.5 (192.168.61.5) port 12866
AF_INET
Recv  Send  Send
Socket Socket Message Elapsed
Size Size Size Time Throughput
bytes bytes bytes secs. 10^6bits/sec

87380 16384 16384 10.01 269.27
87380 16384 16384 10.01 246.93
87380 16384 16384 10.01 290.17
```

1G x3 balance-tlb

- mode=5 balance-tlb
- e1000e x3

```
[root@m1110b nonaka]# netperf -H 192.168.61.5 -- -P 12866
TCP STREAM TEST from 0.0.0.0 (0.0.0.0) port 12866 AF_INET to 192.168.61.5 (192.168.61.5) port 12866
AF_INET
Recv  Send  Send
Socket Socket Message Elapsed
Size Size Size Time Throughput
bytes bytes bytes secs. 10^6bits/sec

87380 16384 16384 10.03 941.44
87380 16384 16384 10.03 922.08
87380 16384 16384 10.03 941.39
```

1G x3 balance-alb

- mode=6 balance-alb
- e1000e x3

```
[root@m1110b nonaka]# netperf -H 192.168.61.5 -- -P 12866
TCP STREAM TEST from 0.0.0.0 (0.0.0.0) port 12866 AF_INET to 192.168.61.5 (192.168.61.5) port 12866
AF_INET
Recv  Send  Send
Socket Socket Message Elapsed
Size Size Size Time Throughput
bytes bytes bytes secs. 10^6bits/sec

87380 16384 16384 10.03 921.68
87380 16384 16384 10.03 921.78
87380 16384 16384 10.03 921.68
```