

367779

365949

367271

369945



36~37 Socket

rulr-5

338756

341389

344627

344251



33~34 Socket



rulr2-01

803

810



800

rulr2-02

118000

122000

□□

12□□□

ru1r2-03

117000

123000

□□

12□□□

□□□

ru1r2-02

ru1r2-03

□□□□□□□□

ru1r2-01

□□□□□□□□

□□□□□□□□

??iptables????????

□□□ NAT □□

75M 3632M DNAT tcp dpt:6031

□□□□□□□□

75M packets

3632M bytes

□□□□□

6100

6101

6102

...

□□□□□

□□□

6031□□□□□□□□□□

□□□

6031

↓

172.18.0.200

↓

□□

↓

ru1r2-02/ru1r2-03

□□□□□□□

6031

□□□□□□

??????????

□□□□□

sar□

eth0

rxkB/s ≈ 200

txkB/s ≈ 180



200 KB/s



≈ 1.6 Mbps



< 10 Mbps



Intel 82599

10G



10Gbps

↓

□□□□Mbps



??Hyper-V??????????



Packets Received/sec

3066



3000 PPS

10G

100 PPS



3000 PPS

1%

??CPU????



% DPC Time

Total:

0.52%



DPC

20%

30%

40%



□□□□□

0.5%

□□□□

??????????

□□□□□

□□□□

□□□□

CPU□□

contrack□□

□□□□

□□□□□

NAT????????

□□□□

ru1r-4
≈37□□□

ru1r-5
≈34□□□

□□□

nf_contrack_max=1048576

□□□□□

□□□

30~40□□□□

□□□□

conntrack hash
NAT lookup

□□□ CPU□

□□□□

conntrack -S

□□□

insert_failed
drop
early_drop
search_restart

???????

□□□□ 20:00~22:00□□□

sar -n TCP,ETCP 60

□□

active/s
passive/s
retrans/s

□□□□

retrans/s

□□□

>100
>1000

□□□□□□

□□□

```
sar -n DEV 60
```

□□□

```
%ifutil
```

□□□

```
<10%
```

□□□□□□□□

?????????

□□□□□□

□□	□□
10G□□□□	□□
Hyper-V□□□	□□
□□ CPU	□□
DPC□□	□□
□□□□	□□
nf_conntrack_max	□□
ip_local_port_range	□□
NAT□□□	□□
□□□□□	□□□□□

□□□□□□□□

rulr2-01 ≈ 800

rulr2-02 ≈ 12

rulr2-03 ≈ 12

1:1:1

rulr-4/rulr-5 rulr2-01 02 03 iptables haproxy/nginx

iptables-save

iptables -t nat -S

rulr2-01 rulr2-02 rulr2-03 DNAT

rulr2-01

Revision #1

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