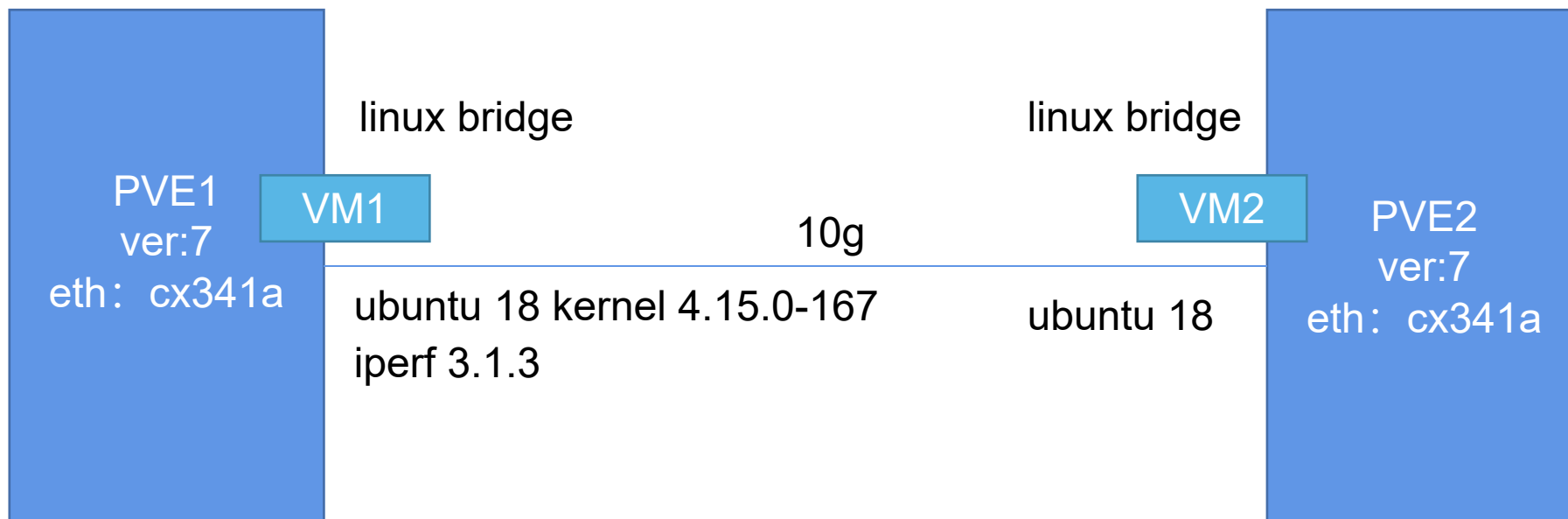


# Proxmox VE

virtio-net/vmxnet3/e1000/r8139

性能测试

# 测试环境



# virtio-----virtio

Connecting to host 10.13.14.172, port 5201

[ 4] local 10.13.14.171 port 34362 connected to 10.13.14.172 port 5201

[ ID]	Interval	Transfer	Bandwidth	Retr	Cwnd
[ 4]	0.00-1.00	sec 1.08 GBytes	9.27 Gbits/sec	10323	1.35 MBytes
[ 4]	1.00-2.00	sec 1.08 GBytes	9.27 Gbits/sec	10118	1.77 MBytes
[ 4]	2.00-3.00	sec 1.08 GBytes	9.26 Gbits/sec	12044	1.06 MBytes
[ 4]	3.00-4.00	sec 1.08 GBytes	9.28 Gbits/sec	10145	1.65 MBytes
[ 4]	4.00-5.00	sec 1.08 GBytes	9.26 Gbits/sec	11308	1.28 MBytes
[ 4]	5.00-6.00	sec 1.07 GBytes	9.23 Gbits/sec	14487	1.60 MBytes
[ 4]	6.00-7.00	sec 1.08 GBytes	9.27 Gbits/sec	11288	1.77 MBytes
[ 4]	7.00-8.00	sec 1.08 GBytes	9.29 Gbits/sec	8283	1.64 MBytes
[ 4]	8.00-9.00	sec 1.08 GBytes	9.25 Gbits/sec	12657	1.58 MBytes
[ 4]	9.00-10.00	sec 1.07 GBytes	9.18 Gbits/sec	18596	1.77 MBytes

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[ ID]	Interval	Transfer	Bandwidth	Retr	
[ 4]	0.00-10.00	sec 10.8 GBytes	9.26 Gbits/sec	119249	sender
[ 4]	0.00-10.00	sec 10.8 GBytes	9.25 Gbits/sec		receiver

# virtio-----virtio (虚拟接口, 未桥接)

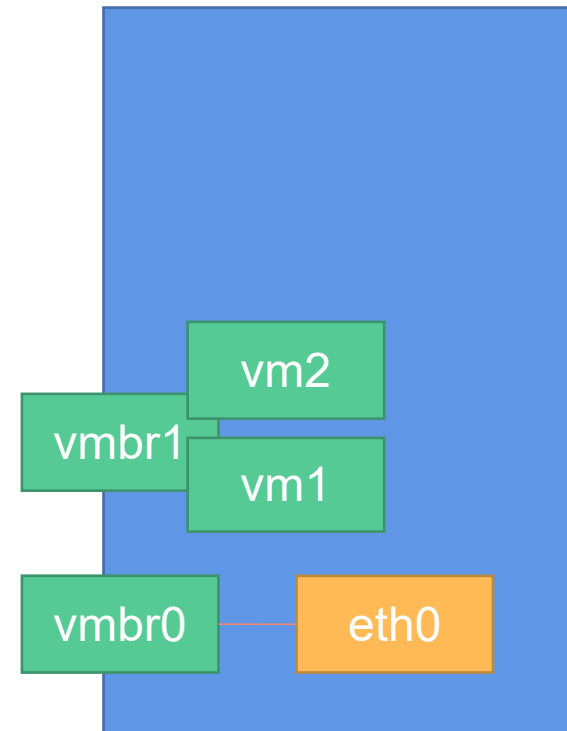
Connecting to host 10.13.14.172, port 5201

[ 4] local 10.13.14.171 port 46716 connected to 10.13.14.172 port 5201

[ ID]	Interval	Transfer	Bandwidth	Retr	Cwnd
[ 4]	0.00-1.00	sec 4.67 GBytes	40.1 Gbits/sec	0	1.80 MBytes
[ 4]	1.00-2.00	sec 4.64 GBytes	39.9 Gbits/sec	0	1.80 MBytes
[ 4]	2.00-3.00	sec 4.84 GBytes	41.6 Gbits/sec	0	1.80 MBytes
[ 4]	3.00-4.00	sec 4.73 GBytes	40.6 Gbits/sec	0	1.80 MBytes
[ 4]	4.00-5.00	sec 4.74 GBytes	40.7 Gbits/sec	0	1.80 MBytes
[ 4]	5.00-6.00	sec 5.13 GBytes	44.1 Gbits/sec	0	1.80 MBytes
[ 4]	6.00-7.00	sec 5.35 GBytes	46.0 Gbits/sec	0	1.80 MBytes
[ 4]	7.00-8.00	sec 5.20 GBytes	44.6 Gbits/sec	0	1.80 MBytes
[ 4]	8.00-9.00	sec 5.11 GBytes	43.9 Gbits/sec	0	1.80 MBytes
[ 4]	9.00-10.00	sec 5.07 GBytes	43.5 Gbits/sec	0	1.80 MBytes

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[ ID]	Interval	Transfer	Bandwidth	Retr	
[ 4]	0.00-10.00	sec 49.5 GBytes	42.5 Gbits/sec	0	sender
[ 4]	0.00-10.00	sec 49.5 GBytes	42.5 Gbits/sec		receiver



# vmxnet3-----vmxnet3

Connecting to host 10.13.14.172, port 5201

[ 4] local 10.13.14.171 port 51148 connected to 10.13.14.172 port 5201

[ ID]	Interval	Transfer	Bandwidth	Retr	Cwnd
[ 4]	0.00-1.00	sec 538 MBytes	4.50 Gbits/sec	236	764 KBytes
[ 4]	1.00-2.00	sec 485 MBytes	4.08 Gbits/sec	52	437 KBytes
[ 4]	2.00-3.00	sec 730 MBytes	6.13 Gbits/sec	204	699 KBytes
[ 4]	3.00-4.00	sec 717 MBytes	6.01 Gbits/sec	318	423 KBytes
[ 4]	4.00-5.00	sec 735 MBytes	6.16 Gbits/sec	512	619 KBytes
[ 4]	5.00-6.00	sec 706 MBytes	5.92 Gbits/sec	265	485 KBytes
[ 4]	6.00-7.00	sec 708 MBytes	5.94 Gbits/sec	499	648 KBytes
[ 4]	7.00-8.00	sec 654 MBytes	5.48 Gbits/sec	414	604 KBytes
[ 4]	8.00-9.00	sec 512 MBytes	4.29 Gbits/sec	238	310 KBytes
[ 4]	9.00-10.00	sec 490 MBytes	4.12 Gbits/sec	355	358 KBytes

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[ ID]	Interval	Transfer	Bandwidth	Retr	
[ 4]	0.00-10.00	sec 6.13 GBytes	5.26 Gbits/sec	3093	sender
[ 4]	0.00-10.00	sec 6.13 GBytes	5.26 Gbits/sec		receiver

# vmxnet3-----vmxnet3

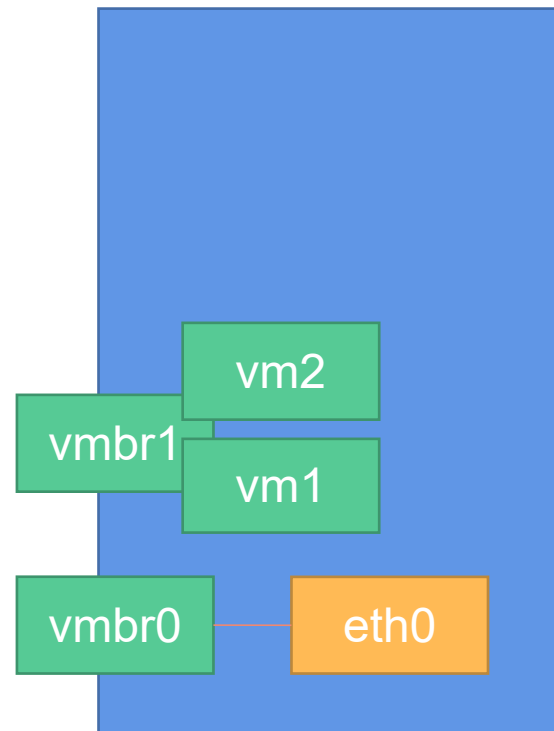
(虚拟接口, 未桥接)

Connecting to host 10.13.14.172, port 5201

[ 4] local 10.13.14.171 port 42602 connected to 10.13.14.172 port 5201

[ ID]	Interval	Transfer	Bandwidth	Retr	Cwnd
[ 4]	0.00-1.00	sec 1.04 GBytes	8.92 Gbits/sec	1562	402 KBytes
[ 4]	1.00-2.00	sec 1.05 GBytes	9.00 Gbits/sec	1488	443 KBytes
[ 4]	2.00-3.00	sec 1.05 GBytes	9.06 Gbits/sec	1549	370 KBytes
[ 4]	3.00-4.00	sec 986 MBytes	8.27 Gbits/sec	1638	444 KBytes
[ 4]	4.00-5.00	sec 1018 MBytes	8.54 Gbits/sec	1644	465 KBytes
[ 4]	5.00-6.00	sec 1.01 GBytes	8.70 Gbits/sec	1620	471 KBytes
[ 4]	6.00-7.00	sec 1.01 GBytes	8.70 Gbits/sec	1953	441 KBytes
[ 4]	7.00-8.00	sec 1.04 GBytes	8.92 Gbits/sec	1487	421 KBytes
[ 4]	8.00-9.00	sec 1018 MBytes	8.53 Gbits/sec	1545	362 KBytes
[ 4]	9.00-10.00	sec 1.04 GBytes	8.92 Gbits/sec	1607	409 KBytes

[ ID]	Interval	Transfer	Bandwidth	Retr	
[ ID]	Interval	Transfer	Bandwidth	Retr	
[ 4]	0.00-60.00	sec 61.1 GBytes	8.75 Gbits/sec	95435	sender
[ 4]	0.00-60.00	sec 61.1 GBytes	8.75 Gbits/sec		receiver



# e1000-----e1000

Connecting to host 10.13.14.172, port 5201

[ 4] local 10.13.14.171 port 54666 connected to 10.13.14.172 port 5201

[ ID]	Interval	Transfer	Bandwidth	Retr	Cwnd
[ 4]	0.00-1.01	sec 127 MBytes	1.05 Gbits/sec	0	276 KBytes
[ 4]	1.01-2.00	sec 146 MBytes	1.23 Gbits/sec	0	276 KBytes
[ 4]	2.00-3.01	sec 144 MBytes	1.20 Gbits/sec	0	276 KBytes
[ 4]	3.01-4.00	sec 142 MBytes	1.20 Gbits/sec	0	276 KBytes
[ 4]	4.00-5.00	sec 149 MBytes	1.25 Gbits/sec	0	276 KBytes
[ 4]	5.00-6.01	sec 148 MBytes	1.23 Gbits/sec	0	291 KBytes
[ 4]	6.01-7.00	sec 148 MBytes	1.25 Gbits/sec	0	291 KBytes
[ 4]	7.00-8.01	sec 135 MBytes	1.13 Gbits/sec	0	291 KBytes
[ 4]	8.01-9.00	sec 155 MBytes	1.31 Gbits/sec	0	311 KBytes
[ 4]	9.00-10.01	sec 138 MBytes	1.15 Gbits/sec	0	327 KBytes

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[ ID]	Interval	Transfer	Bandwidth	Retr	
[ 4]	0.00-10.01	sec 1.40 GBytes	1.20 Gbits/sec	0	sender
[ 4]	0.00-10.01	sec 1.40 GBytes	1.20 Gbits/sec		receiver

# r8196-----r8196

Connecting to host 10.13.14.172, port 5201

[ 4] local 10.13.14.171 port 34606 connected to 10.13.14.172 port 5201

[ ID] Interval Transfer Bandwidth Retr Cwnd

[ 4] 0.00-1.00 sec 148 MBytes 1.23 Gbits/sec 63 164 KBytes

[ 4] 1.00-2.01 sec 145 MBytes 1.21 Gbits/sec 23 130 KBytes

[ 4] 2.01-3.00 sec 149 MBytes 1.25 Gbits/sec 0 137 KBytes

[ 4] 3.00-4.00 sec 149 MBytes 1.25 Gbits/sec 0 151 KBytes

[ 4] 4.00-5.00 sec 150 MBytes 1.26 Gbits/sec 0 154 KBytes

[ 4] 5.00-6.01 sec 151 MBytes 1.26 Gbits/sec 29 130 KBytes

[ 4] 6.01-7.00 sec 163 MBytes 1.38 Gbits/sec 100 283 KBytes

[ 4] 7.00-8.00 sec 181 MBytes 1.51 Gbits/sec 44 301 KBytes

[ 4] 8.00-9.00 sec 182 MBytes 1.53 Gbits/sec 245 325 KBytes

[ 4] 9.00-10.00 sec 196 MBytes 1.65 Gbits/sec 50 294 KBytes

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[ ID] Interval Transfer Bandwidth Retr

[ 4] 0.00-10.00 sec 1.57 GBytes 1.35 Gbits/sec 554 sender

[ 4] 0.00-10.00 sec 1.57 GBytes 1.35 Gbits/sec receiver



# 总结

网卡名	os内报告速度	实际表现	平台兼容	备注
virtio-net	无	40Gbits/sec	很差	适用于KVM平台, windows需要打驱动
vmxnet3	10G	8Gbits/sec	差	适用于KVM、vSphere平台, windows需要打驱动
e1000	1G	1Gbits/sec	良好	适用于全平台, windows老系统需要安装驱动
r8139	100M	1Gbits/sec	优秀	使用于全平台, x86基本免驱

注:

- 1、因为没有40G环境, 所以换成了虚拟接口网桥测试。比较依靠CPU处理, 不同CPU和平台可能结果不同。
- 2、r8139, 在Ubuntu下跑出了1g/s的速度, 超过其原本带宽设定。存在疑问。
- 3、virtio-net在Windows下报告带宽为10g, 在Linux下不显示带宽。
- 4、本测试使用的是Ubuntu18, 如用Windows测试, 可能数据有些不同。