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Performance Measuring on a single compute node

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Test Bed

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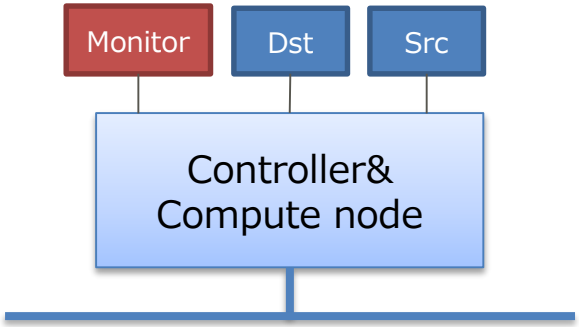
System configuration



We measured using Kilo in December 2015.

Spec

	Physical server	VM
CPU	Xeon X2640 v2 2.0GHz (8 cores/16 threads)	2 vcpus
Memory	32GB	4GB
HDD	1TB	40GB
NIC	1GbE NIC x2	1GbE NIC
OS	Ubuntu 14.04	CentOS 7.1

Benchmark

iperf-2.0.8

- Parameters

  iperf -u -c <dst> -l <size> -b 1G -t 10 -P 2

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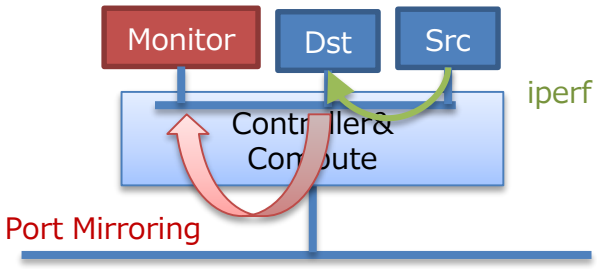
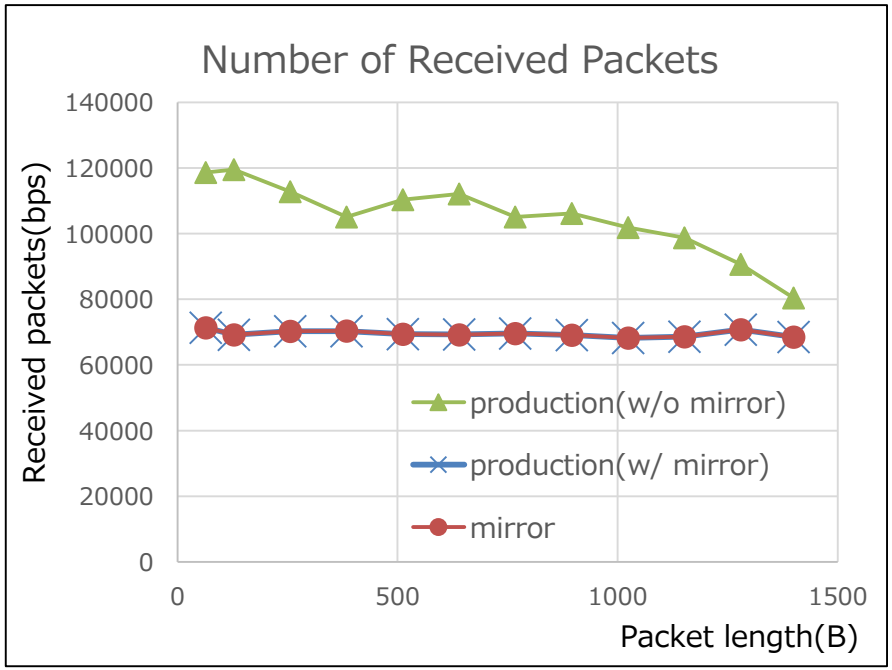
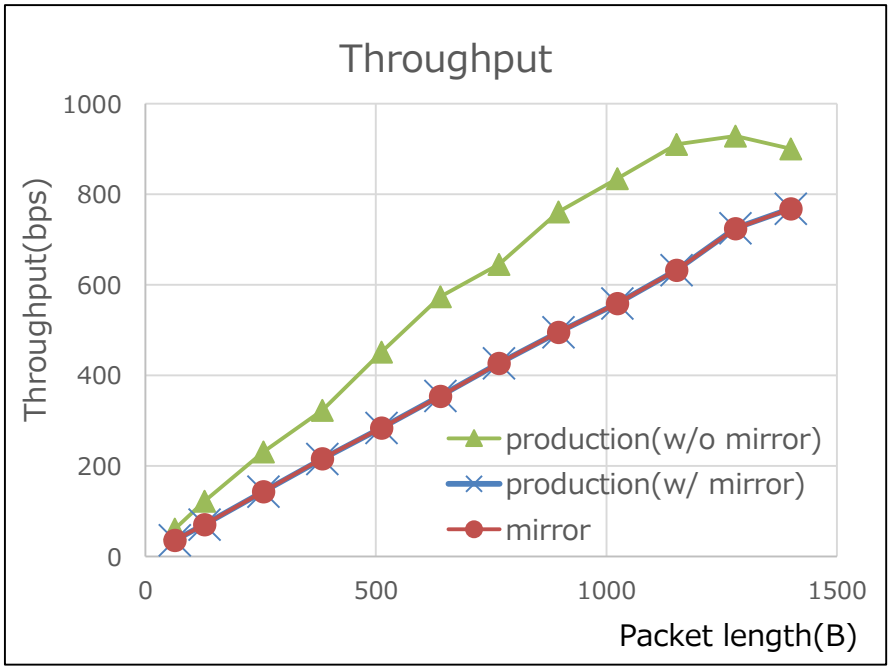
Performance Impact

- Send UDP packets from Src to Dst by using iperf.
- Tap-flow was set on Dst VM's port.







- When the port mirroring is performed, the number of packets (production) is limited to about 70,000 pkts/sec.

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Consideration

- We guess the performance is limited because of vhost-net (kernel thread) running in host become overload.
  - We find that vhost-net uses CPU 100%.

```
top - 17:16:27 up 29 days,  8:33,  5 users,  load average: 3.19, 2.94, 2.23
Tasks: 274 total,   5 running, 269 sleeping,   0 stopped,   0 zombie
%Cpu(s): 10.9 us,  1.7 sy,  0.0 ni, 86.8 id,  0.6 wa,  0.0 hi,  0.0 si,  0.0 st
KiB Mem:  24682092 total, 24415040 used,   267052 free,   222904 buffers
KiB Swap: 25153532 total,        0 used, 25153532 free. 18592172 cached Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU %MEM     TIME+ COMMAND
13175 root      20   0       0      0      0 R 100.0  0.0  16:06.39 vhost-13172
13396 libvirt+  20   0 4619848 530368  16496 S  43.9  2.1  49:32.17 qemu-system-x86
 8833 stack     20   0  254796  91360   5048 S  31.4  0.4 987:43.31 nova-conductor
```

vhost-net of Src VM

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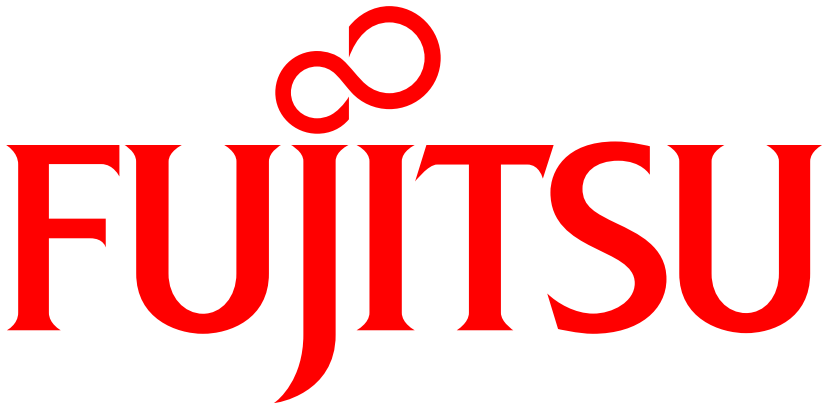

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