

DPDK

工程实践与科技创新III-D 虚拟化与云计算 EI313

李子龙 518070910095

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1 要求

DPDK performance test:

- (1) Create two virtual machines on KVM.
- (2) Compile and install DPDK library on each virtual machine.
- (3) Compile and run DPDK sample application l2fwd on VM2, then compile and run pktgen-dpdk on VM1. pktgen-dpdk will record the size of the packages VM1 sends and the amount of packages received from VM2, while l2fwd just send back the packages it received from VM1.
- (4) Evaluate DPDK's performance of L2 forwarding.

2 编译安装 DPDK

按照官方文档^[1]编译 DPDK，如图 1 和 2 所示。

Listing 1: [INSTALL.sh](#)

```
1  #!/bin/bash
2
3  sudo -s
4
5  wget https://fast.dpdk.org/rel/dpdk-21.08.tar.xz
6  tar xf dpdk-21.08.tar.xz
7  cd dpdk-21.08
8
9  apt install meson
10 apt install python3-pip python3-pyelftools
11 pip3 install meson
12
13 # reboot if necessary
14 # do not build examples!
```

```

15 meson build
16 ninja -C build
17
18 # ninja clean -C build
19 # if necessary
20
21 mkdir -p /dev/hugepages
22 mountpoint -q /dev/hugepages || mount -t hugetlbfs nodev /dev/hugepages
23 echo 64 > /sys/devices/system/node/node0/hugepages/hugepages-2048kB/
24 nr_hugepages

```

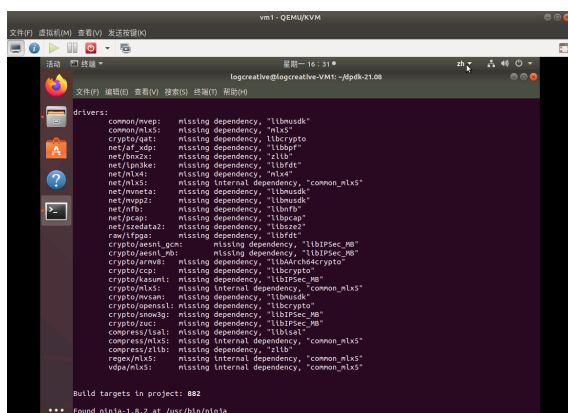


图 1: meson 配置

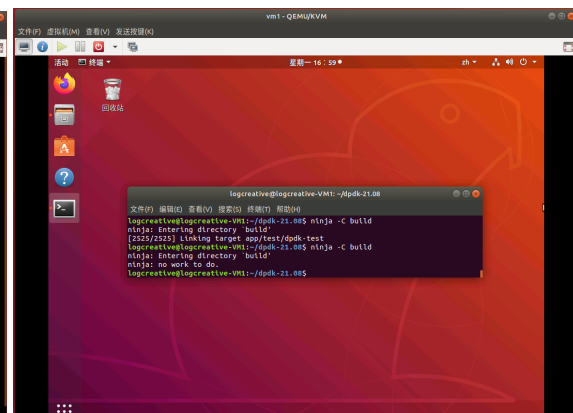


图 2: ninja 编译

之后对该虚拟机进行克隆，得到另一个已经安装 DPDK 的虚拟机。

参考文献

- [1] DPDK Project. Dpdk quick start guide[M/OL]. 2021. <http://core.dpdk.org/doc/quick-start/>.