What is rabbit?

rabbit is a high-performance computing resource.

- Architecture: x86_64
- CPU op-mode(s): 32-bit, 64-bit
- Byte Order: Little Endian
- CPU(s): 32
- On-line CPU(s) list: 0-31
- Thread(s) per core: 2
- Core(s) per socket: 8
- Socket(s): 2
- NUMA node(s): 2
- Vendor ID: GenuineIntel
- CPU family: 6
- Model: 63
- Stepping: 2
- CPU MHz: 2399.982
- BogoMIPS: 4799.30
- Virtualization: VT-x
- L1d cache: 32K
- L1i cache: 32K
- L2 cache: 256K
- L3 cache: 20480K
- NUMA node0 CPU(s): 0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30
- NUMA node1 CPU(s): 1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31

rabbit lives in a rack in our server room in the Kelley Engineering Center.

What is rabbit?

rabbit is equipped with:
- 2 E5-2630 Xeon Processors
- 16 Cores total
- 64 GB of memory
- 2 TB of disk
- NVIDIA Titan Black
- 15 SMs
- 2880 CUDA cores
- 6 GB of memory
- OpenCL support
- CUDA support
Getting to rabbit and setting up your account

To login to rabbit:

```
ssh rabbit.engr.oregonstate.edu  -l  yourengrusername
```

Put this in your rabbit account’s .cshrc:

```
setenv INTEL_LICENSE_FILE    28518@linlic.engr.oregonstate.edu
setenv ICCPATH /nfs/guille/a2/rh80apps/intel/studio.2013-sp1/composer_xe_2015/bin/
set path=( $path $ICCPATH )
source   /nfs/guille/a2/rh80apps/intel/studio.2013-sp1/bin/iccvars.csh   intel64
```

Then activate these values like this:

```
source .cshrc
```

(These will be activated automatically the next time you login.)

Compiling and running C/C++ on rabbit

```
icpc  -o  try  try.cpp  -lm -openmp -align  -qopt-report=3 -qopt-report-phase=vec
or

g++   -o  try  try.cpp  -lm -openmp
```

Compiling for OpenCL

```
printinfo:      printinfo.cpp
icpc   -o printinfo printinfo.cpp   /usr/lib64/libOpenCL.so   -lm   -openmp
```

Compiling for CUDA

```
printinfo:      printinfo.cpp
icpc  -o printinfo printinfo.cpp   /usr/lib64/libOpenCL.so   -lm   -openmp
```

The printinfo Program Output

Number of Platforms = 1
Platform #0:
Name    = 'NVIDIA CUDA'
Vendor  = 'NVIDIA Corporation'
Version = 'OpenCL 1.1 CUDA 7.0.18'
Profile = 'FULL_PROFILE'
Device #0:
Type = 0x0004 = CL_DEVICE_TYPE_GPU
Device Vendor ID = 0x10de (NVIDIA)
Device Maximum Compute Units = 15
Device Maximum Work Item Dimensions = 3
Device Maximum Work Item Sizes = 1024 x 1024 x 64
Device Maximum Work Group Size = 1024
Device Maximum Clock Frequency = 1071 MHz
Device Extensions:
d_khr_page_addressable_store
 d_khr=<?xml.. skipped..>
d_khr_is_sharing
 d_khr=<?xml.. skipped..>
d_khr_device_address_query
 d_khr=<?xml.. skipped..>
d_khr=<?xml.. skipped..>
d_khr=<?xml.. skipped..>
d_khr=<?xml.. skipped..>
d_khr_global_v230_base_atomics
d_khr_global_v230_extended_atomics
d_khr_global_v232_base_atomics
d_khr_global_v232_extended_atomics
d_khr=<?xml.. skipped..>
```

The printinfo Program Output

Reservation System – Please use It!!

https://secure.engr.oregonstate.edu/engr/resources/bailey