Scope out my new i7 PC

BV

[2014-06-28 Sat 19:40]

After a long time using ever aging computers at home I built a new workstation.

1   Specs

OS Ubuntu 15.04

mobo ASRock Z97 Extreme6 (10 SATA)

CPU i7-4770K at 3.5GHz

RAM 2x8GB G.SKILL Ares 240-pin DDR3 (two slots still available)

GPU EVGA 02G-P4-3753-KR GeForce GTX 750 Ti Superclocked

case Corsair Carbide Air 540 Black

HDD 2x Seagate Barracuda 7200.14 ST3000DM001 3TB

SDD SanDisk SDSSDP-128G-G25

PS CORSAIR CSM CS450M 450W

Total cost was just over 1.1k.

2   Some benchmarking

2.1   Compare Building ROOT on SSD and HDD

SSD

HDD Seagate

2.1.1 Download speed.

Obviously dominated by network.

```
hdd$ time wget ftp://root.cern.ch/root/root_v5.34.18.source.tar.gz
real 1m3.200s
user 0m0.325s
sys 0m1.368s

ssd$ time wget ftp://root.cern.ch/root/root_v5.34.18.source.tar.gz
real 1m1.630s
user 0m0.313s
sys 0m1.325s
```

2.1.2 Unpack

```
hdd$ sync; sync; sync
hdd$ time (tar -xvf root_v5.34.18.source.tar.gz ; sync)
real 0m2.664s
user 0m0.995s
sys 0m0.318s


ssd$ sync; sync; sync
ssd$ time (tar -xvf root_v5.34.18.source.tar.gz ; sync)
real 0m1.894s
user 0m0.982s
sys 0m0.314s
```

Trying this a second time shows these times are probably good to the first decimal place.

2.1.3 Configure

Prepare the OS with the slew of build dependencies:

```
$ sudo apt-get build-dep root-system
$ sudo apt-get install cmake
```

Configure using CMake:

```
both$ mkdir build
both$ cd build
```

```
hdd$ sync; sync; sync
hdd$ time cmake ../root -DCMAKE_INSTALL_PREFIX=../install
real 0m3.530s
user 0m2.707s
sys 0m0.567s

hdd$ sync; sync; sync
hdd$ time cmake ../root -DCMAKE_INSTALL_PREFIX=../install
real 0m3.284s
user 0m2.773s
sys 0m0.590s
```

2.1.4   Build

Serial make. This fails at 71% in `libAfterImage`, so just for timing purposes:

```
hdd$ time make
real 18m19.952s
user 17m57.504s
sys 0m53.928s

ssd$ time make
real 18m19.203s
user 17m56.957s
sys 0m53.906s
```

Well, that's underwhelming.

2.2   Building ROOT v6

```
$ time make -j 8
real 13m39.561s
user 97m52.141s
sys 4m17.270s

$ time make install
real 0m4.192s
user 0m2.594s
sys 0m1.592s
```