

x86 Emulation on ARM devices, and Wine on ARMhf ExaGear-Desktop

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OSC Kyoto, OSC Tokyo, KOF, Taiwan COSCUP

Tokaido Linux Users' Group LT

2015/6/13 13:00~

Place: Hamamatsu

鴨江アートセンター 206

Speaker:
Kapper

Self Introduction

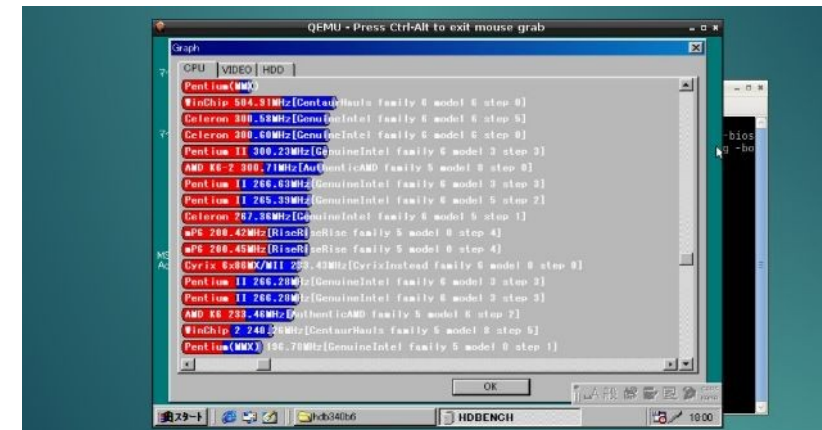
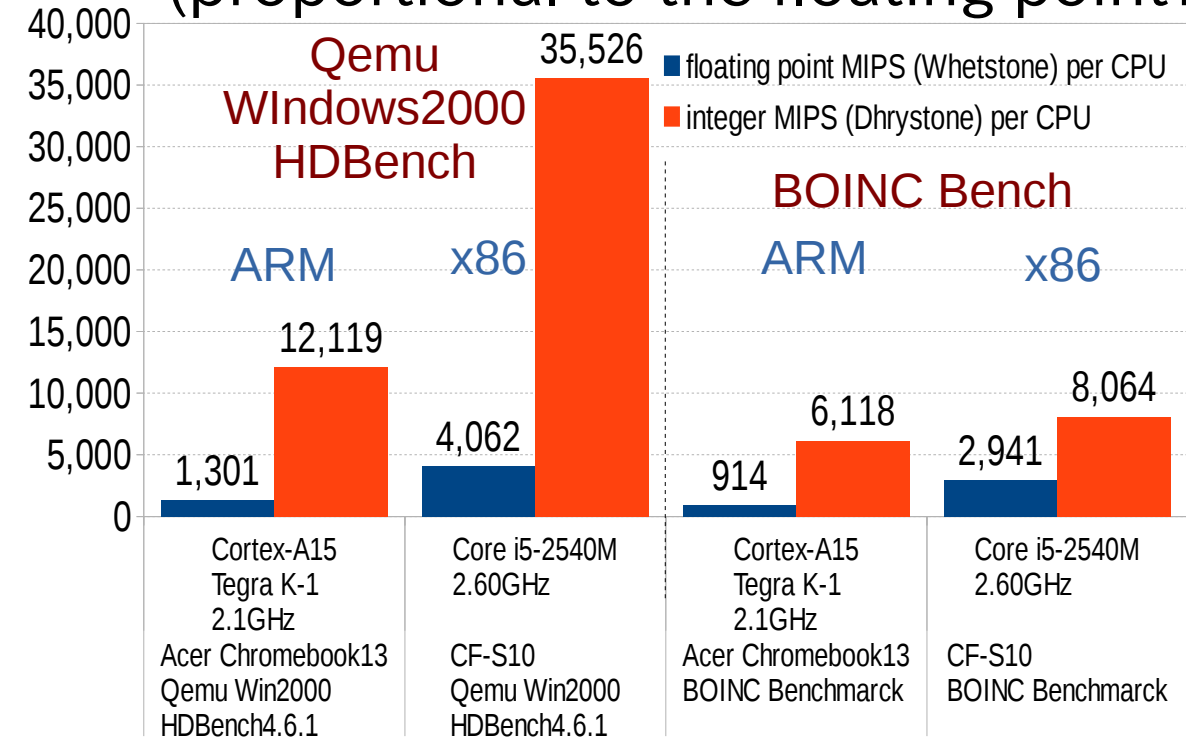


- My name: Kapper
- Twitter account: [@kapper1224](#)
- HP: <http://kapper1224.sakura.ne.jp>
- Slideshare:
- My Hobby: Linux, *BSD, and Mobile ARM Devices
- My favorite words: Record than experiment important
- Test Model: Netwalker(PC-Z1,T1)、Nokia N900、DynabookAZ、RaspberryPi
Nexus7(2012、2013)、Hercules eCAFE EX HD、Jetson TK-1、
OpenPandora、ARM Chromebook、ZTE OPEN C (FirefoxOS)
台湾Android電子辭書 無敵CD-920、CD-928
- Recent Activity:
 - Netwalker on the Linux from Scratch.
 - Hacking of Android Nexus7.
 - I have recently often use the ARM Chromebook.

X86 Emulation on ARM Linux Devices

x86 Qemu Emulation on ARM devices⁴

- You can use the x86 emulator will be like can be moved and Wine Windows apps and Steam and Skype.
- The x86 emulator also works such as Windows and NetBSD. TegraK-1 in Using Qemu Pentium2 266MHz equivalent Win98 is in HDBench, it was to use and Pentium4 1.8GHz equivalent to ExaGear-Desktop.
- In ARM Devices, Qemu is x86:ARM=3:1 (proportional to the floating point?)



Windows98, 2000 on chromebook

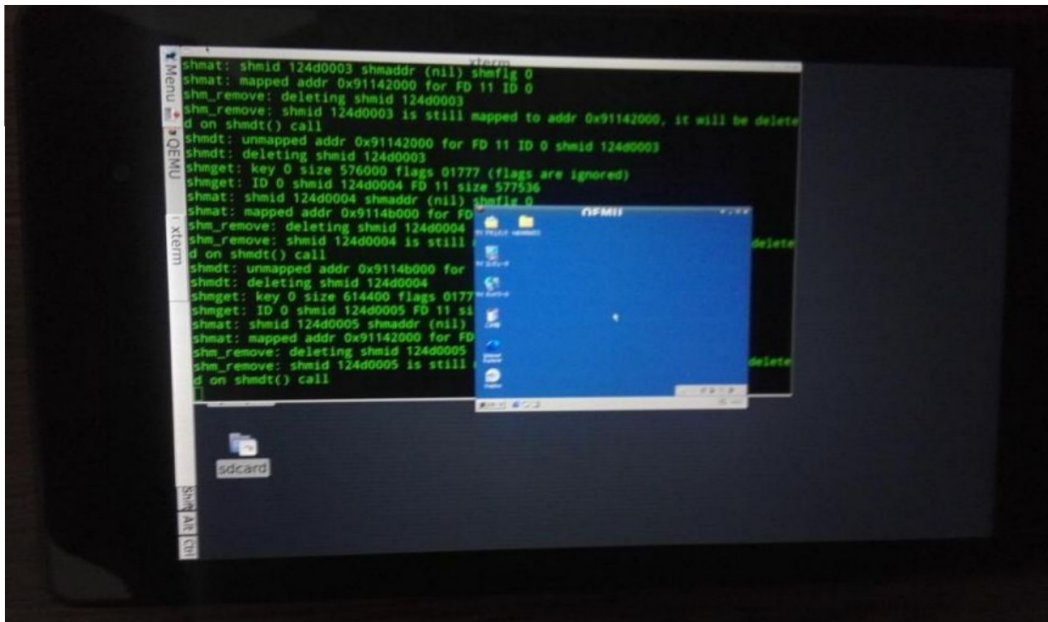


NetBSD Teokure Live Image On chromebook

x86 Emulation on Android

- You can operate the Windows or NetBSD by the use of Android even x86 emulation
- PC: Bochs, Qemu, DOSBox, Linbo PC emulation
MAC: vMacMini
- In the case of Qemu, Windows and NetBSD, and the others operation.

Windows9x, 2000(Qemu) on Nexus7

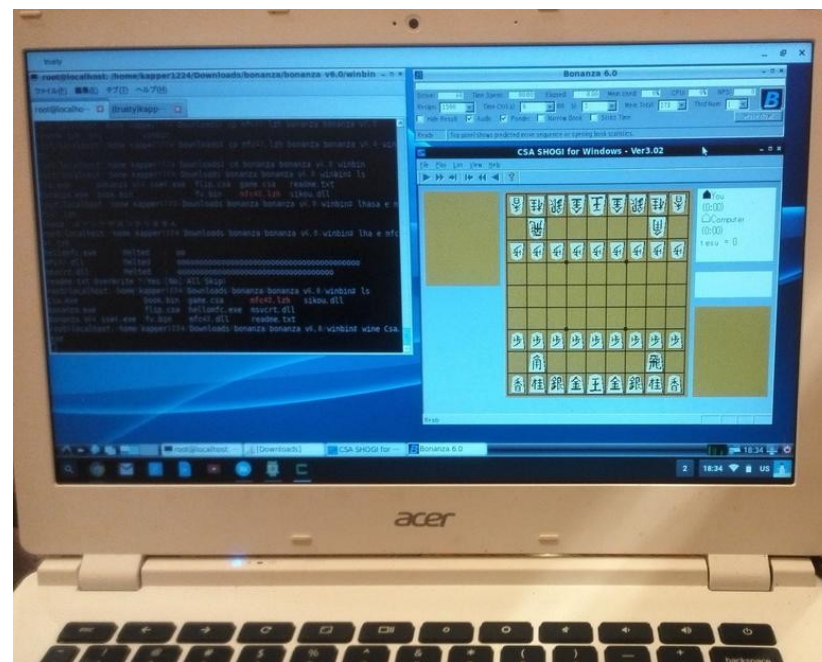
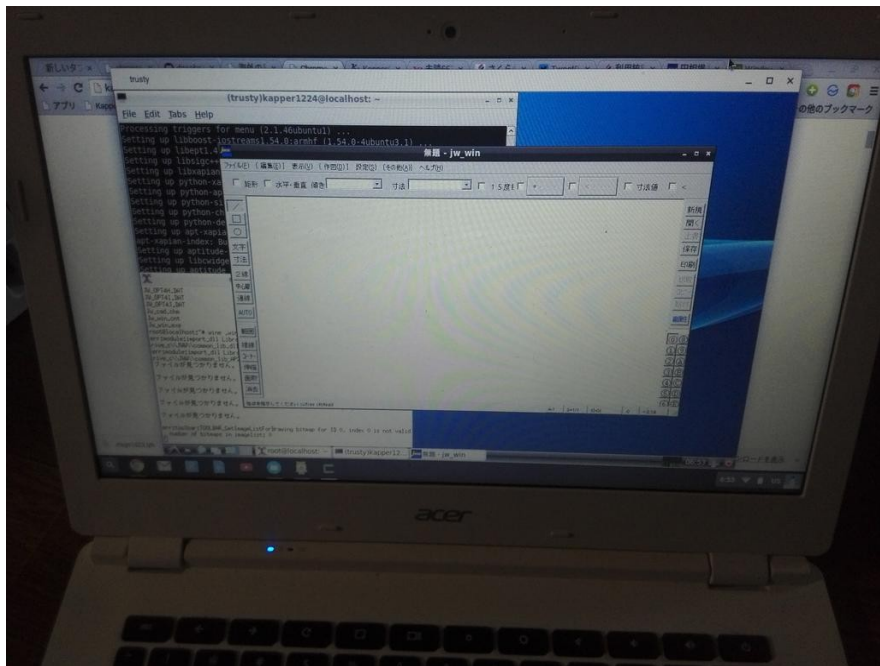


NetBSD Teokure Live Image(Qemu) on Nexus7



x86 Emulation on ExaGear-Desktop⁶ 1 board PC, and ARM Chromebook

- ExaGear-Desktop is 4.5 times faster than qemu.
- i686 Ubuntu12.04LTS on ARMhf Ubuntu 14.04,12.04
- Boinc Benchmarks:@ ARM Chromebook CB5-311 TegraK-1
Integer points (ARMhf Base) : 6118 \Rightarrow (i686): 1800 29.4%
Flotings points (ARMhf Base) : 914 \Rightarrow (i686): 200 21.9%
about Pentium4 1.8GHz on ARM.(Qemu =Pentium2 266MHz)
- Windows applications on Wine, on ARM devices.
 jw-cad(Wine) on ARM Chromebook *Bonanza(Wine) on ARM Chromebook*



x86 Emulation on ExaGear-Desktop ⁷

ARM RaspberryPi, RaspberryPi2

- ExaGear-Desktop RaspberryPi is 5 times faster than Qemu.
- i386 Debian7Wheezy on ARMhf Raspbian,Ubuntu14.04,Debian7
- HDBench Benchmarks:@ ARM Raspberry Pi2
 Integer points (ExaGear i686) : 7586 (Qemu i386: 1999 26.4%)
 Floating points (ExaGear i686) :6224 (Qemu i386: 384 6.2%)
 about MMX Pentium 200MHz on ARM. (Qemu =Pentium 40MHz?)
- Windows applications on Wine, on ARM devices.

HDBench3.40(Wine) on ARM RaspberryPi2

Maujan(Wine) on ARM RaspberryPi2

```

pi@raspberrypi: ~/Downloads/hd
pi@raspberrypi:~/Downloads/hd$ hdb3406.lzh
pi@raspberrypi:~/Downloads/hd$ lha e hdb3406.lzh
hdbench.cnt - Melted : o
cpu.dat - Melted : oooo
video.dat - Melted : ooooo
directdb.exe - Melted : ooooooooooooo
hdbench.exe - Melted : ooooooooooooooooooooooooooooooooooooo
update.exe - Melted : ooo
cpuid.hdb - Melted : ooooooo
hdbsub.hdb - Melted : ooooooooooooooooooooo
hdbench.hlp - Melted : oo
hdbench.ini - Melted : o
pi@raspberrypi:~/Downloads/hd$ ls
cpu.dat directdb.exe hdbench.cnt hdbench.hlp hdbsub.hdb video.dat
cpuid.hdb hdb3406.lzh hdbench.exe hdbench.ini update.exe
pi@raspberrypi:~/Downloads/hd$ rasp
raspi-config raspistill raspivid raspivw
pi@raspberrypi:~/Downloads/hd$ rasp
raspi-config raspistill raspivid raspivw
pi@raspberrypi:~/Downloads/hd$ rasp-config
Script must be run as root. Try 'sudo rasp-config'
pi@raspberrypi:~/Downloads/hd$ sudo rasp-config
pi@raspberrypi:~/Downloads/hd$
  
```

ALL	Integer	Float	ReadWrite	DirectCraw
124288	7586	6224	137074	50718
131074	1999	384	1567	1919
6678	3113	1919	305687	489

```

pi@raspberrypi:~/Downloads/hd$ ls
Desktop desktop_1_002.png python_games rasp-wm150327.png
Downloads indicity rasp-wm150327.png ??????????????????_001.png
root@raspberrypi:/home/pi# uname -a
Linux raspberrypi 3.18.11-v7+ #781 SMP PREEMPT Tue Apr 21 18:07:59 BST 2015 i686
GNU/Linux
root@raspberrypi:/home/pi# ls
Desktop desktop_1_002.png python_games rasp-wm150327.png
Downloads indicity rasp-wm150327.png ??????????????????_001.png
root@raspberrypi:/home/pi# cd Downloads/
root@raspberrypi:/home/pi/Downloads# ls
Exealtdcalc.pdf
Maujong.exe
Maujong.txt
README
eltechs_exagear_desktop_1.1_guide.pdf rule.txt
exagear-guest-debian-7-wine2g_3_all.deb sound
exagear-guest-debian-7_3_all.deb update.txt
root@raspberrypi:/home/pi/Downloads# wine Maujong.exe
Warning: memory above 0x80000000 doesn't seem to be accessible.
Wine requires a 3G/1G user/kernel memory split to work properly.
wine: created the configuration directory '/root/.wine'
fixme:urllon:DownloadBSC_OnProgress Unsupported status 3
fixme:wininet:InternetLockRequestFile STUB
fixme:storage:create_storagefile Storage share mode not implemented.
  
```

Next My Presentation

OSC Kyoto, Tokyo, Taiwan COSCUP

- OSC Kyoto, Tokyo, and Taiwan COSCUP
my exhibition schedule
- Content: OSC Kyoto: Hacking of Android Nexus7
: COSCUP: Hacking with ARM devices
- OSC Kyoto 8/8
OSC Tokyo 10/24-25
KOF (Kansai Open Forum) 11/?
Taiwan COSCUP 8/15-16

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