Debian on SuperH

Debconf7

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What am I?

- Nobuhiro Iwamatsu
- Live in Japan, Tokyo
- SuperH Linux Kernel Developer
- SH-IPL+g (SH bootloader) Maintainer and u-boot SH Maintainer
- In New Maintainer process
What is SuperH?

- Made by Renesas Technology Corp.
- Embedded CPU used well in Japan and Europe.
- Many kinds of CPU.
  ..... 
- Used for NAS, cellular phone, LCD TV controller, and etc...
- Linux is working.
The 1st SuperH porting

- Began to port Linux in Japan in 1999.
- Began port to Debian with Mr. Yaegashi Mr. Ishikawa Mr. Bolzer in 2000.
- Support targets are SH3/SH4.
- Development stop in 2003.
The 2nd SuperH porting

- LANDISK and LANTANK\(^1\) were sold from the I/O-DATA in 2003 and 2005.
- Use Linux and Debian :-) . Ported by I/O HACK porject users.
- The book and the feature of a lot of LANDISK/LANTANK were united.
- Packages were old.
- Renesas can not inability to follow this project.

\(^1\)Lantank and landisk are NAS
LANDISK/LANTANK

- SH7751R (266Mhz)
- 64MB RAM
- UDMA133 PATA
- 10/100Base-T x1
- USB2.0 x2
I began porting to SH of Debian in August 2006. Because ...

- I’m Debian user and in NM process.
- I want the distribution to which SH is supported. Gentoo? I don’t want to use that.
- I want to enable the user of SH to use Debian.
Aspect from Debian Project
- Debian users of Embedded number up.
- We can approach the conquest of the correspondence architecture.

Aspect from SuperH User/Developer
- They becomes easy to develop SuperH.
My Plan

- Support architecture in Debian SH4 only. I plan to support the little endian first.
- Don’t build SH3 binary packages
  However, there is the following problems.
  - about FPU
  - about calling convention issue
  - about Cache issue
When these are solved, it is possible to work in SH3 by the SH4 binary.
- Big endian support
  I plan to support the big endian after little endian.
Now states

- Discussion in Mailing list.
- SH4 Support only.
- Build-essential’s packages is built.
- Local builddd working.
- SH4 debootstrap is working.
- Some package built (about 2000 packages)
Development Machine
LANTANK x 3
RTS7751R2D

- SH7751R (266Mhz)
- 64MB RAM
- 4MB Flash
- CF slot
- 100base Ethernet
- PCI Bus
Only I and dancerj, now.
However, I have the people who help development.

- **kmuto**
  Debian Developer
  Support build buildd.

- **kkojima**
  GNU binutils SH maintainer
  Support SH specific.

- **kinneko**
  I/O Hack member
  He is tested SH’s debian packages.

- **gotom**
  Debian Developer
  I presented SH development board for him. But he doesn’t work.
Need developer

I am looking for the person who develops together :-)

Todo

- To official support architecture.
- Registration to buildd.net.
- Create SH port and buildd maintainance team.
- Send SH specific patch to Package Maintainer.
- Keep buildd network.
You will be able to participate in development with the following devices if you are interested in the development of Debian on SuperH.
Get SH devices
USL-5P

- SH7751R (266Mhz)
- 64MB RAM
- CF slot
- 1 100base Ethernet
- USB2.0 port x 5
- about $100
L-BOX

- SH7751R (266Mhz)
- 64MB RAM
- CF slot
- 2 100base Ethernet
- 1 CardBus Slot
- about $500
T-SH7706-LAN

- SH7706 (133Mhz)
- 32MB RAM
- MMC slot
- 1 100base Ethernet
- about $70
PX-EH16L

- SH7751R (266Mhz)
- 64BM RAM
- UDMA133 PATA
- 10/100Base-T x1
- USB2.0 x2
- about $300 (This can be bought in Europe.)
Links

- SuperH
  http://www.renesas.com
- IRC
  #debian-superh @ oftc.net
- Mailing List
  debian-superh@debian.org
- Wiki
  http://wiki.debian.org/SHPort
- Debian Packages repository
  http://www.nigauri.org/~iwamatsu/debian/debian-sh4/
- iohack
  http://iohack.sourceforge.jp
Any question?