Debian on SuperH

Debconf7

Nobuhiro Iwamatsu iwamatsu@debian.or.jp
IRC nick: iwamatsu

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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.
  SH1/SH2/SH2A/SH3/SH3-DSP/SH4/SH4A/SH4A-DSP/SH64
  .....
- Used for NAS, cellular phone, LCD TV controller , and etc...
- Linux is working .

History

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

Doesn't repeat the history.....

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.

Influence

- 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.

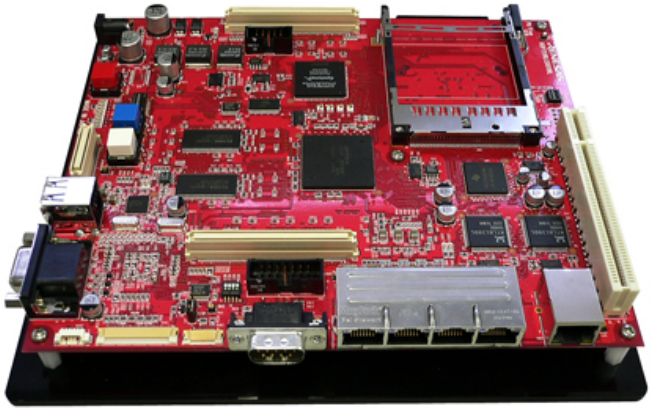
Now states

- Discussion in Mailing list.
- SH4 Support only.
- Build-essential's packages is built.
- Local buildd 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
- 1 100base Ethernet
- PCI Bus

Developer

Only I and dancerj , now.

Support member

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 developper

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

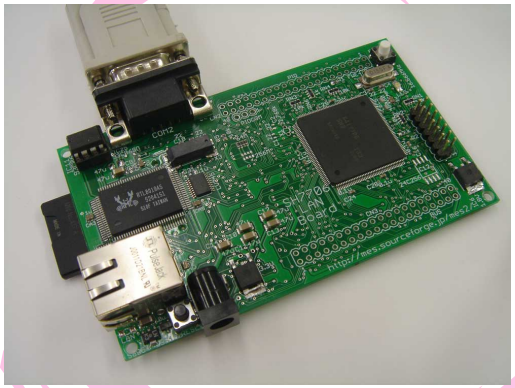
Todo

- 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.

Get SH devices

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



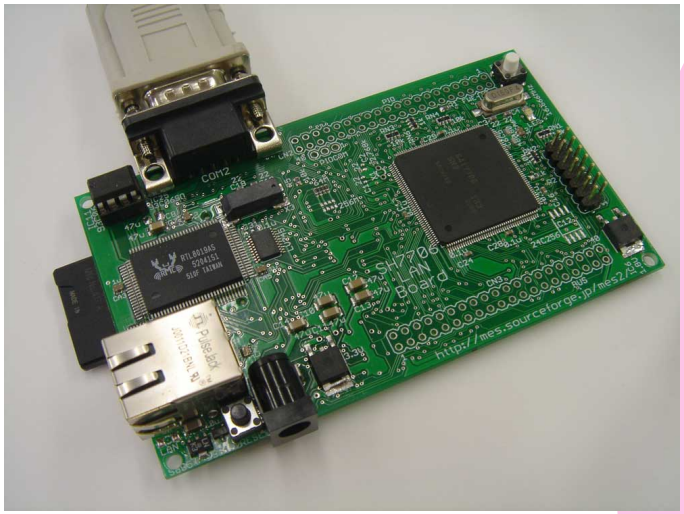
USL-5P

- 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 repsitory
  `http://www.nigauri.org/~iwamatsu/debian/debian-sh4/`

- iohack
  `http://iohack.sourceforge.jp`

Any question?