Yocto BSP and SDK Build Guide

Version 1.0.0

Display Audio

Solution Team

Release information

The following changes have been make to this document.

Change History

Date	Change
08 Dec. 2017	First release for v1.0.0

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Chap 1. Yocto BSP

1.1 Introduction

We release the source compilation and fusing script files of kernel and u-boot developed by Nexell using Yocto Poky system.

The meta-nexell layer is configured to minimize the dependency on the host PC compile environment of the 3rd party or end-user and to reduce the difficulty in configuring the root file system.

1.2 Features and Functionality

- linux kernel, u-boot, 2ndboot build & release
- Binary files packaging & fusing scripts
- systemd, busybox, adb, etc.
- Available Image type
  - QT5, Minimal(ready for kernel command line)

1.3 Build and Configuration

1.3.1 Environment

Essentials : Packages needed to build an image on a headless system.

```
$ sudo apt-get install gawk wget git-core diffstat unzip texinfo gcc-multilib build-essential chrpath socat
```

Graphical and Eclipse Plug-In Extras: Packages recommended if the host system has graphics support or if you are going to use the Eclipse IDE.

```
$ sudo apt-get install libsdl1.2-dev xterm
```

Documentation: Packages needed if you are going to build out the Yocto Project documentation manuals.

```
$ sudo apt-get install make xsltproc docbook-utils fop dblatex xmlto
```

SDK Installer Extras: Packages needed if you are going to be using the the standard or extensible SDK.

```
$ sudo apt-get install autoconf automake libtool libglib2.0-dev libarchive-dev
```

OpenEmbedded Self-Test (oe-selftest): Packages needed if you are going to run oe-selftest.

```
$ sudo apt-get install python-git
```

1.3.2 Source download

```
$ mkdir yocto-nexell
$ cd yocto-nexell
$ repo init -u ssh://{USER_ID}@git.nexell.co.kr:29418/nexell/yocto/manifest
$ repo sync
```

If you do not have an ssh account.

```
$ repo init -u git://git.nexell.co.kr/nexell/yocto/manifest
or
$ repo init -u http://git.nexell.co.kr:8081/gerrit/nexell/yocto/manifest
$ repo sync
```

1.3.3 Build

1.3.3.1 Full build

```
$ ./tools/build.sh s5p4418-daudio-ref qt
```

1.3.3.2 Partial build

1.3.3.2.1 Kernel only

```
$ ./tools/build.sh s5p4418-daudio-ref qt -t bl1 -t kernel
```

1.3.3.2.2 Kernel, uboot

```
$ ./tools/build.sh s5p4418-daudio-ref qt -t bl1 -t uboot -t kernel
```

1.3.3.2.3 Rootfs only

```
$ ./tools/build.sh s5p4418-daudio-ref qt -t bl1 -t rootfs
```

1.3.3.3 Clean full build

```
$ ./tools/build.sh s5p4418-daudio-ref qt -c
```

1.3.3.4 Clean partial build

```
$ ./tools/build.sh s5p4418-daudio-ref qt -c -t bl1 -t uboot -t kernel
```

1.3.4 Fusing

If you need usb boot

Set the boot mode switch on the debug board to usb boot mode.

On the host PC side

```
$ ./yocto/result-s5p4418-daudio-ref-qt/tools/ standalone-uboot-by-usb-download.sh
```

On the target board side (Common)

```
$ fastboot 0
```

1.3.4.1 Full fusing

```
$ ./yocto/result-s5p4418-daudio-ref-qt/tools/standalone-fastboot-download.sh
```

1.3.4.2 Partial fusing

1.3.4.2.1 Kernel only

```
./yocto/result-s5p4418-daudio-ref-qt/tools/standalone-fastboot-download.sh -t kernel
```

1.3.4.2.2 Kernel, uboot

```
$ ./yocto/result-s5p4418-daudio-ref-qt/tools/standalone-fastboot-download.sh -t kernel -t uboot
```

1.3.4.2.3 Rootfs only

```
$ ./yocto/result-s5p4418-daudio-ref-qt/tools/standalone-fastboot-download.sh -t rootfs
```

1.3.5 DAudio reference SDK installation

```
$ ./tools/build.sh s5p4418-daudio-ref qt -s –c
```

Installed at : /opt/poky/2.1.x

1.3.6 ADB setting

On the host PC side

```
$ sudo vi etc/udev/rules.d/51-android.rules
```

Modified as follows.

```
SUBSYSTEM=="usb",ATTR{idVendor}=="18d1",MODE="0666"
```

Chap 2. Solution

2.1 Environment

```
$ source /opt/poky/2.1.x/environment-setup-cortexa9hf-neon-poky-linux-gnueabi
```

2.2 Build

Display audio solution sdk unzip archive.

Move to uncompressed location.

```
$ make
$ make package
```

2.3 Push

If necessary, with the target board and PC connected to the adb, push the generated package as follows.

```
$ make push
```

On the target board side, enter sync.

```
$ sync
```