Security Classification:

Most Confidential ( ) Confidential ( ) Internal ( ) Public (√)

RK3399 Linux Debian System

Development Guide

Mark： [ ] Editing [√] Issued	Version：	V1.00
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	Completed Date：	2017-01-14

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Revision History

Date	Version No.	Revision Note	Author	Remark
2017-01-14	V1.00	Initial version	Yu Yongzhen	

Content

1 Overview

This document mainly describes RK3399 Linux Debian system development instruction including compiling steps and flashing method.

2 Compiling environment setup

2.1 Cross tool chain download

sudo apt-get install gcc-4.8-multilib-arm-linux-gnueabihf

sudo apt-get install gcc-arm-linux-gnueabihf libssl-dev gcc-aarch64-linux-gnu

3 Compiling

3.1 kernel compiling

cd kernel

make ARCH=arm64 rockchip_linux_defconfig

make ARCH=arm64 rk3399-sapphire-excavator-linux.img -j12

3.2 Debian rootfs compiling

First enter rootfs directory

cd rootfs

3.2.1 Building base debian system by ubuntu-build-service from linaro.

sudo apt-get install binfmt-support qemu-user-static live-build

sudo dpkg -i ubuntu-build-service/packages/*

sudo apt-get install -f

ARCH=armhf ./mk-base-debian.sh

After compiling finished, it will generate:linaro-stretch-alip-20161201-1.tar.gz

Note:

if occur:

lb config: unrecognized option '--debootstrap-options'lb config: unrecognized option '--variant=minbase --include=apt-transport-https,gnupg'lb config: unrecognized option '--updates'

need to upgrade live-build version.

download 3.0-a69-1 package and manually install: dpkg -i live-build_3.0-a69-1_all.deb

3.2.2 Building rk-debian rootfs

ARCH=armhf ./mk-rootfs.sh

3.2.3 Creating the ext4 image(linaro-rootfs.img)

./mk-image.sh

3.3 Pack complete image

Back to project root directory, pack complete image:

./mkdebian_firmware.sh

Generate all images to directory of **rockimg/Image-debian**

4 Flashing

Windows flashing tool, open the flashing tool:

tools\windows\AndroidTool_Release_v2.35\AndroidTool_Release_v2.35\AndroidTool.exe

select all the images generated in step 3.3 and then start flashing after board enters flashing mode.

linaro-rootfs is Debian root file system just as shown in below picture.