Rockchip RK3308 Linux SDK Alpha Note

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DISCLAIMER

Trademark Statement

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Preface

Overview

The document presents Rockchip RK3308 Linux5.10 SDK release notes, aiming to help engineers get started with RK3308 Linux5.10 SDK development and debugging faster.

Intended Audience

This document (this guide) is mainly intended for:

Technical support engineers

Software development engineers

Chipset and System Support

Chipset	Buildroot
RK3308B、RK3308H	Y

Revision History

Date	Version	Author	Revision History
2022-08-20	V0.0.1	Caesar Wang	Alpha version

Contents

1. Overview

This SDK is based on Buildroot 2021.11, with kernel 5.10 and U-boot v2017.09. It is suitable for RK3308 EVB development boards and all other Linux products developed based on it.

This SDK is suitable for, but not limited to, IoT products such as Sound box/sweeping robot, providing flexible data path combination interfaces to meet the customized requirements for free combination, please refer to the documents under the project's docs/ directory.

2. Main Functions

Function	Module Name
System	Buildroot
Partition table	uboot, misc, trust, boot, recovery, rootfs, oem, userdata
File System Type	EXT2/3/4, UBIFS, SquashFS
Upgrade Recovery	OTA, Recovery
Secure Boot	SecureBoot
Stress Test Tool	ROCKCHIP_TEST
Data communication	Wi-Fi, USB

3. How to Get the SDK

The SDK is released by Rockchip server. Please refer to Chapter 4 Software Development Guide to build a development environment.

3.1 Get General RK3308 Linux5.10 SDK

3.1.1 Get Source Code from Rockchip Code Server

To get RK3308 Linux5.10 SDK software package, customers need an account to access the source code repository provided by Rockchip. In order to be able to obtain code synchronization, please provide SSH public key for server authentication and authorization when apply for SDK from Rockchip technical window. About Rockchip server SSH public key authorization, please refer to Chapter 6 SSH Public Key Operation Introduction.

RK3308_Linux_SDK download command is as follows：

```
repo init --repo-url ssh://git@www.rockchip.com.cn/repo/rk/tools/repo -u \
ssh://git@www.rockchip.com.cn/linux/rockchip/platform/manifests -b linux -m \
rk3308_linux5.10_release.xml
```

Repo, a tool built on Python script by Google to help manage git repositories, is mainly used to download and manage software repository of projects. The download address is as follows:

```
git clone ssh://git@www.rockchip.com.cn/repo/rk/tools/repo
```

3.1.2 Get Source Code from Local Compression Package

For quick access to SDK source code, Rockchip Technical Window usually provides corresponding version of SDK initial compression package. In this way, developers can get SDK source code through decompressing the initial compression package, which is the same as the one downloaded by repo.
Take RK3308_LINUX_SDK_ALPHA_V0.0.1_20220820.tgz as an example. After geting a initialization package, you can get source code by running the following command:

```
mkdir rk3308
tar xvf RK3308_LINUX_SDK_ALPHA_V0.0.1_20220820..tgz -C rk3308
cd rk3308
.repo/repo/repo sync -l
.repo/repo/repo sync -c
```

Developers can update via `.repo/repo/repo sync -c` command according to update introductions that are regularly released by FAE window.

4. Software Development Guide

For software development, please refer to the quick start documents in the project directory:

```
<SDK>/docs/RK3308/Quick-start/Rockchip_RK3308_Quick_Start_Linux_EN.pdf
```

5. SSH Public Key Operation Introduction

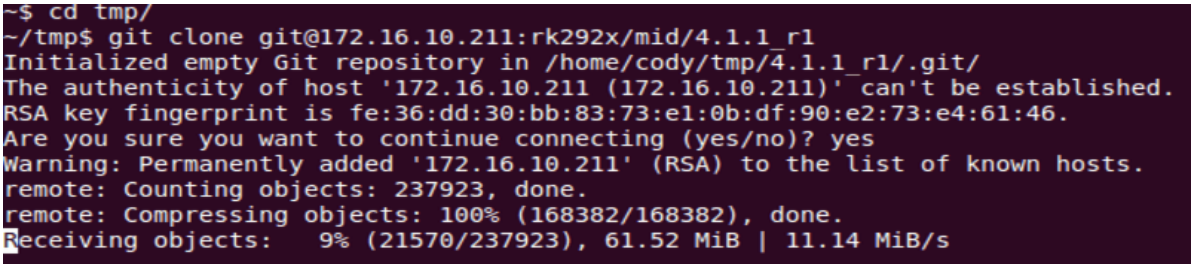
Please follow the introduction in the “Rockchip_User_Guide_SDK_Application_And_Synchronization_CN” to generate an SSH public key and send the email to fae@rock-chips.com, to get the SDK code.
This document will be released to customers during the process of applying for permission.

5.1 Multiple Machines Use the Same SSH Public Key

If the same SSH public key should be used in different machines, you can copy the SSH private key file id_rsa to "~/.ssh/id_rsa" of the machine you want to use.

The following prompt will appear when using a wrong private key, please be careful to replace it with the correct private key.

After adding the correct private key, you can use git to clone code, as shown below.



Adding ssh private key may result in the following error.

```
Agent admitted failture to sign using the key
```

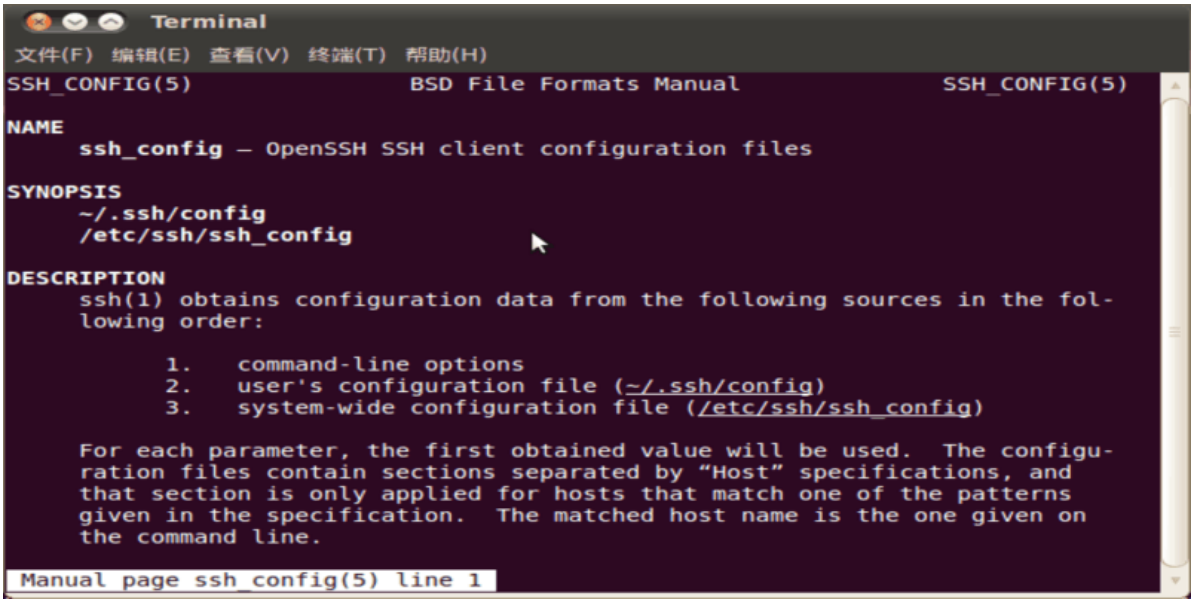
Enter the following command in console to solve:

```
ssh-add ~/.ssh/id_rsa
```

5.2 One Machine Switches Different SSH Public Keys

You can configure SSH by referring to ssh_config documentation.

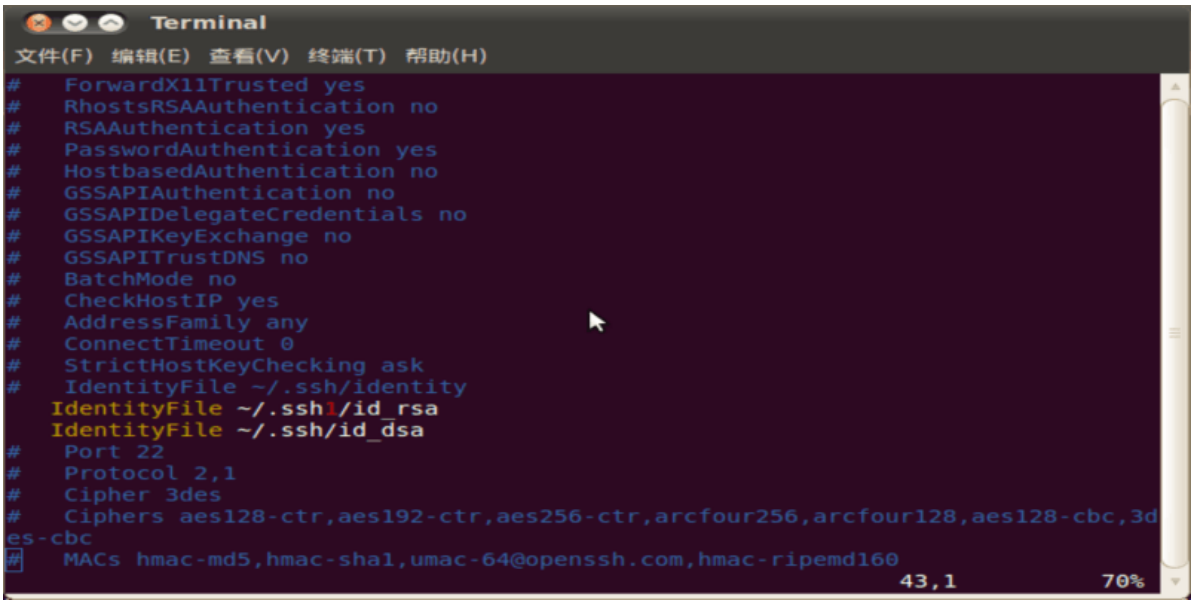
```
~$ man ssh_config
```



Run the following command to configure SSH configuration of current user.

```
~$ cp /etc/ssh/ssh_config ~/.ssh/config
~$ vi .ssh/config
```

As shown in the figure, SSH uses the file "~/.ssh1/id_rsa" of another directory as an authentication private key. In this way, different keys can be switched.



5.3 Key Authority Management

Server can monitor download times and IP information of a key in real time. If an abnormality is found, download permission of the corresponding key will be disabled.

Keep the private key file properly. Do not grant second authorization to third parties.

5.4 Reference Documents

For more details, please refer to document

“/docs/Others/Rockchip_User_Guide_SDK_Application_And_Synchronization_CN.pdf"