

Rockchip Linux Docker Compiling Image User Guide

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Preface

Overview

Rockchip Linux Docker compiling image introduction and user guide.

Product Version

Chip Name	Kernel Version
RK3588	Linux 5.10
RK356X	Linux 4.19

Intended Audience

This document (this guide) is mainly intended for:

Technical support engineers

Software development engineers

Revision History

Version	Author	Revision Date	Revision Description
V1.0.0	yp.xiao	2021-12-01	Initial version

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1. Introduction

Docker is an open platform for developing, delivering and running the application, it can separate the application from the infrastructure so that software can be delivered quickly.

Verified System:

System Version	Load Image	Compile Firmware
ubuntu 14.04	pass	pass
ubuntu 16.04	pass	pass
ubuntu 18.04	pass	pass
fedora21	pass	pass
centos 7.6	pass	pass
centos 7.5	pass	pass
centos 7.4	pass	pass
centos 7.2	pass	pass
centos 6.0	fail	fail

2. The Installation

1. ubuntu

```
sudo apt-get install docker.io
```

2. centos

```
curl -fsSL https://get.docker.com | bash -s docker --mirror Aliyun
```

3. fedora

```
dnf install docker-ce
```

3. Obtaining the Image

Refer to the section [Rockchip_Developer_Guide_Linux_Software_CN.pdf](#) about Obtaining General Software Packages.

4. Importing the Image

1. Load the firmware

```
sudo docker import docker-image-build-rk3588-v1.0-21-11-08.tar build-rk3588:v1.0-21-11-08
```

```
rk@ubuntu:~/samba$ sudo docker import docker-image-build-rk3588-v1.0-21-11-08.tar build-rk3588:v1.0-21-11-08
sha256:9bd0828dcb608eaf4d082c2deb94f4601e504341078f7e850e63ceab2e6008e4
```

2. Check the firmware

```
sudo docker images
```

```
rk@ubuntu:~/samba$ sudo docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
build-rk3588	v1.0-21-11-08	9bd0828dcb60	23 seconds ago	860MB

3. Start the firmware and mount the source code to docker

```
sudo docker run --rm --mount
type=bind,source=/home/rk/samba/rk3588_lite_sdk,target=/tmp/rk3588 -i -t build-rk3588:v1.0-21-11-08 /bin/bash
```

```
source=/home/rk/samba/rk3588_lite_sdk //The path of sdk source code
target=/tmp/rk3588 //The mount path of docker image
```

```
rk@ubuntu:~/samba$ sudo docker run --rm --mount
type=bind,source=/home/rk/samba/rk3588_lite_sdk,target=/tmp/rk3588 -i -t build-rk3588:v1.0-21-11-08 /bin/bash
root@0979c9ebac9:/#
```

4. Compile the sdk

```
cd /tmp/rk3588 //The /tmp/rk3588 directory here is the target directory from
which the previous directive was mounted
./build_emmc.sh //Compile the emmc firmware
```

Note: The docker image only has a compilation environment, so it needs to load the sdk source code into docker for compilation

5. FAQ

5.1 centos image loading error: Cannot connect to the Docker daemon at unix:///var/run/docker.sock. Is the docker daemon running

Need to close selinux to load the image:

```
in /etc/sysconfig/docker:
change OPTIONS='--selinux-enabled -log-driver=journald --signature-
verification=false'
to OPTIONS='--selinux-enabled=false -log-driver=journald --signature-
verification=false'
then execute: sudo systemctl start docker
```

5.2 Disable selinux in fedora21

```
1. Disable selinux
Edit /etc/selinux/config, find the SELINUX line and change it to:
SELINUX=disabled;

2. reboot

3. systemctl restart docker

docker -d -D //Add this command if the previous 3 commands don't work
```

5.3 Failed to import the image in ubuntu 14.04

ubuntu14 can not use `docker import` directly, it need to use the following methods to import:

```
1. The installation
   sudo apt-get install docker.io
2. The import
   cat docker-image-build-rk3588-v1.0-21-11-08.tar | sudo docker import -
   build-rk3588:v1.0-21-11-08
```