# How to port wireless driver to

# **Google Chromium OS**

2013/11/26

### Introduction

This guide describes things about porting Realtek wireless driver to Google chromium OS. We assume x86-generic is our target board. ChromiumOS 33.0.1709.2(235044).

#### **Install Chromium OS**

Please visit Google Chromium web page for Chromium OS installation. http://www.chromium.org/chromium-os

Following Chromium user guide to build Chromium OS and make sure it works correctly on your target board.

## Install Realtek wireless driver

Decompress wireless driver.

\$ cd chromiumos/src/third\_party/kernel/files/drivers/net/wireless/ \$ tar zxvf rtl8821AS\_linux\_v4.2.x\_xxxx.xxxxxxxxxx.tar.gz

\$ vim chromiumos/src/third\_party/kernel/files/drivers/net/wireless/Makefile Adds following information to Makefile.

obj-\$(CONFIG\_RTL8821AU) += rtk\_wifi\_driver/

\$ vim chromiumos/src/third\_party/kernel/files/drivers/net/wireless/Kconfig Adds following information to Kconfig

source "drivers/net/wireless/rtk\_wifi\_driver/Kconfig"

Enable CFG80211 in autoconf.h

\$ vim

chromiumos/src/third party/kernel/files/drivers/net/wireless/rtk wifi driver/includ

```
e/autoconf.h
```

#define CONFIG\_IOCTL\_CFG80211 1

\$ vim

chromiumos/src/third\_party/kernel/files/drivers/net/wireless/rtk\_wif\_driver/Makefi

CONFIG\_PLATFORM\_I386\_PC = y

## Compiler

- \$ cd chromiumos
- \$ ./chromite/bin/cros\_sdk
- # create local copy of kernel source
- \$ cros\_workon --board=x86-generic start sys-kernel/chromeos-kernel
- \$ repo sync
- \$ cd ~/trunk/src/third\_party/kernel/files
- \$ chromeos/scripts/kernelconfig oldconfig (select m on wireless driver. ie., rtl8821)

#### Build Packages and Image

- \$ cd ~/trunk/src/scripts
- \$ ./build\_packages --board=x86-generic
- \$ ./build\_image --board=x86-generic

Copy the image to a USB key

./image\_to\_usb.sh --board="x86-generic"

## **Connect to AP**

Boots up Chromium OS login to the Chrome browser. Press Ctrl-Alt-T to open a terminal. Type "shell" on terminal to launch a shell environment. Type "/sbin/ifconfig" to make sure wlanx (usually wlan0) is up.

If wlanx exists. Click Settings soft key on right side bottom to configure wireless card. You may observe an off-line status in Wi-Fi network. Click to select your favorite AP and connect to it. Enjoy!

Note: If Wi-Fi network display "Disable", it means Network manager reject to inform UI the wireless hardware is ready. Network manager locates in chromiumos/src/platform/shill.

To build local copy of shill, you have to enable following packages:

- \$ cros\_workon --board=x86-generic start chromeos-base/shill
- \$ cros\_workon --board=x86-generic start chromeos-base/platform2

