



# A10 平台 WIFI 增加 wifi direct 和 softap 功能的说明

V0.1

2012-03-08



## Revision History (修改记录, 二号字体, 加粗, 靠左)

<b>Version</b>	<b>Date</b>	<b>Author</b>	<b>Department</b>	<b>Changes compared to previous issue</b>
V0.1	2012-03-08	魏子恒	SW1	Initial version



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## 1. 适用范围

硬件平台： A10 芯片

软件平台： android4.0.3, 全志科技发布的 ICS v1.0 版本以上(包含 v1.0)

Wifi 芯片： rtl8188cus/rtl8192cu 系列芯片模组

从 v1.0 开始 rtl8188(rtl8188cus/rtl8192cu 系列模组)芯片开始支持 wifi direct 和 softap 功能, 如果方案需要支持此两项功能, 请参考下面方法进行移植。

## 2. 修改方法

修改方法可参考方案device/softwinner/crane-m1003h6/的更改记录, 需要修改的文件包括 4 个, 具体修改如下:

[git://172.16.1.11 / device/softwinner/crane-m1003h6.git](https://172.16.1.11/device/softwinner/crane-m1003h6.git) / commit

[summary](#) | [shortlog](#) | [log](#) | [commit](#) | [commitdiff](#) | [tree](#)  
(parent: [5afa41e](#)) | [patch](#)

### add wifi direct and p2p

ics-exdroid [exdroid4.0.3r1-a10-v1.0](#)

```
author weiziheng <weiziheng@allwinnertech.com>
      Fri, 2 Mar 2012 09:05:56 +0000 (17:05 +0800)
committer weiziheng <weiziheng@allwinnertech.com>
      Fri, 2 Mar 2012 09:05:56 +0000 (17:05 +0800)
commit 939bb239ca0004bcc9bba0015fe1b6b7be284b4
tree be0ffb21c2de0bdc5fa694800ff4d2180a6bea01 tree | snapshot
parent 5afa41eb005ab481dd7d1ae0cb7145aa281f6977 commit | diff
```

add wifi direct and p2p

```
BoardConfig.mk diff | blob | history
crane_m1003h6.mk diff | blob | history
init.sun4i.rc [changed mode: 0644->0755] diff | blob | history
overlay/frameworks/base/core/res/res/values/config.xml diff | blob | history
```

### 2.1. BoardConfig.mk

如下图所示, 更改 wpa\_supplicant\_8 的编译选项, wext 接口改为 nl80211 接口, 增加编译 hostapd 用作 softap 功能, 采用静态库链接方式。

注意: 如果编译的时候 wpa\_supplicant\_8 报错误,

请将 `out/target/product/crane-方案名/obj/EXECUTABLES/wpa_supplicant_intermediates` 下面的中间生成文件删除, 再次编译即可。



**add wifi direct and p2p**

[\[device/softwinner/crane-m1003h6.git\]](#) / [BoardConfig.mk](#)

```
diff --git a/BoardConfig.mk b/BoardConfig.mk
index 989cc3f..163b7b3 100755 (executable)
--- a/BoardConfig.mk
+++ b/BoardConfig.mk
@@ -33,10 +33,19 @@ SW_BOARD_GSENSOR_DIRECT_Z := true
 SW_BOARD_GSENSOR_XY_REVERT := true

# Wifi related defines
-BOARD_WPA_SUPPLICANT_DRIVER := WEXT
-WPA_SUPPLICANT_VERSION := VER_0_8_X
+#BOARD_WPA_SUPPLICANT_DRIVER := WEXT
+#WPA_SUPPLICANT_VERSION := VER_0_8_X

# Wifi chipset select
-# usb wifi "rtl8192cu"; sdio wifi "nanowifi"/"ar6302"/"usibcm4329"
-SW_BOARD_USR_WIFI := rtl8192cu
-
+BOARD_WIFI_VENDOR := realtek
+ifeq ($(BOARD_WIFI_VENDOR), realtek)
+  WPA_SUPPLICANT_VERSION := VER_0_8_X
+  BOARD_WPA_SUPPLICANT_DRIVER := NL80211
+  BOARD_WPA_SUPPLICANT_PRIVATE_LIB := lib_driver_cmd_rtl
+  BOARD_HOSTAPD_DRIVER := NL80211
+  BOARD_HOSTAPD_PRIVATE_LIB := lib_driver_cmd_rtl
+
+  SW_BOARD_USR_WIFI := rtl8192cu
+  BOARD_WLAN_DEVICE := rtl8192cu
+
+endif
```

## 2.2. crane\_m1003h6.mk

加入了 android.hardware.wifi.direct.xml 特性，在界面显示 wifi direct 功能。

**add wifi direct and p2p**

[\[device/softwinner/crane-m1003h6.git\]](#) / [crane\\_m1003h6.mk](#)

```
diff --git a/crane_m1003h6.mk b/crane_m1003h6.mk
index 390eflc..f676fal 100755 (executable)
--- a/crane_m1003h6.mk
+++ b/crane_m1003h6.mk
@@ -6,7 +6,8 @@ DEVICE_PACKAGE_OVERLAYS := device/softwinner/crane-m1003h6/overlay

PRODUCT_COPY_FILES += \
    device/softwinner/crane-m1003h6/kernel:kernel \
-    device/softwinner/crane-m1003h6/recovery.fstab:recovery.fstab
+    device/softwinner/crane-m1003h6/recovery.fstab:recovery.fstab \
+    frameworks/base/data/etc/android.hardware.wifi.direct.xml:system/etc/permissions/android.hardware.wifi.direct.xml

PRODUCT_COPY_FILES += \
    device/softwinner/crane-m1003h6/ueventd.sun4i.rc:root/ueventd.sun4i.rc \
```

## 2.3. init.sun4i.rc

更改了 wpa\_supplicant 服务的接口参数，将 wext 改为 nl80211。

注意：从 v1.0 开始，wpa\_supplicant 服务注册已经从 init.rc 删除，改为在具体方案的 init.sun4i.rc 添加。因此如果在 init.sun4i.rc 没有 wpa\_supplicant 服务，则额外增加并修改-Dwext 改为-Dnl80211。



add wifi direct and p2p

[device/softwinner/crane-m1003h6.git] / init.sun4i.rc

```
diff --git a/init.sun4i.rc b/init.sun4i.rc
old mode 100644 (file)
new mode 100755 (executable)
index 5746ee2..7c2a964
--- a/init.sun4i.rc
+++ b/init.sun4i.rc
@@ -62,5 +62,12 @@ on boot
     insmod /system/vendor/modules/mcs7830.ko
     insmod /system/vendor/modules/rtl8150.ko

+#add for realtek wifi
+service wpa_supplicant /system/bin/wpa_supplicant -Dnl80211 -iwlan0 -c/data/misc/wifi/wpa_supplicant.conf
+    socket wpa_wlan0 dgram 660 wifi wifi
+    group wifi inet
+    disabled
+    oneshot
+
service logcat /system/bin/logcat -r 1000 -n 10 -v time -f /data/local/logcat.log
class main
```

## 2.4. config.xml

主要配置了 upstream 接口和 tether 接口，如果不配置，界面就不会显示 softap 功能。

add wifi direct and p2p

[device/softwinner/crane-m1003h6.git] / overlay / frameworks / base / core / res / res / values / config.xml

```
diff --git a/overlay/frameworks/base/core/res/res/values/config.xml b/overlay/frameworks/base/core/res/res/values/config.xml
index bb6c91f..fd6267c 100644 (file)
--- a/overlay/frameworks/base/core/res/res/values/config.xml
+++ b/overlay/frameworks/base/core/res/res/values/config.xml
@@ -1,5 +1,23 @@
<?xml version="1.0" encoding="utf-8"?>
<resources xmlns:xliff="urn:oasis:names:tc:xliff:document:1.2">
+
+ <!-- List of regexpressions describing the interface (if any) that represent tetherable
+      Wifi interfaces.  If the device doesn't want to support tethering over Wifi this
+      should be empty.  An example would be "softap.*" -->
+ <string-array translatable="false" name="config_tether_wifi_regexs">
+   <item>"wlan\\d"</item>
+ </string-array>
+
+ <!-- Array of ConnectivityManager.TYPE_xxxx values allowable for tethering -->
+ <!-- Common options are [1, 4] for TYPE_WIFI and TYPE_MOBILE_DUN or
+ <!-- [0,1,5,7] for TYPE_MOBILE, TYPE_WIFI, TYPE_MOBILE_HIPRI and TYPE_BLUETOOTH -->
+ <integer-array translatable="false" name="config_tether_upstream_types">
+   <item>0</item>
+   <item>1</item>
+   <item>5</item>
+   <item>7</item>
+   <item>9</item>
+ </integer-array>
+ <!-- Component name of the service providing network location support. -->
+ <string name="config_networkLocationProvider">com.google.android.location.NetworkLocationProvider</string>
```

注意：如果此处没有该文件，则新增一个，具体可以从 frameworks\base\core\res\res\values 复制一个 config.xml，然后把里面的内容删除，注意保持头部和尾部(红色部分)，然后添加绿色部分，如下：

```
<?xml version="1.0" encoding="utf-8"?>
<resources xmlns:xliff="urn:oasis:names:tc:xliff:document:1.2">
    <!-- List of regexpressions describing the interface (if any) that represent tetherable
           Wifi interfaces.  If the device doesn't want to support tethering over Wifi this
           should be empty.  An example would be "softap.*" -->
    <string-array translatable="false" name="config_tether_wifi_regexs">
        <item>"wlan\\d"</item>
```



```
</string-array>
<!-- Array of ConnectivityManager.TYPE_xxxx values allowable for tethering -->
<!-- Common options are [1, 4] for TYPE_WIFI and TYPE_MOBILE_DUN or
<!-- [0,1,5,7] for TYPE_MOBILE, TYPE_WIFI, TYPE_MOBILE_HIPRI and TYPE_BLUETOOTH -->
<integer-array translatable="false" name="config_tether_upstream_types">
  <item>0</item>
  <item>1</item>
  <item>5</item>
  <item>7</item>
  <item>9</item>
</integer-array>
</resources>
```



### 3. 问题

1. 如果只想添加 softap 功能或者 wifi direct 功能如何处理？

答： 第 2 项和第 4 项修改分别对应 wifi direct 功能和 softap 功能的界面显示，如果不想要 wifi direct 功能，则无须修改第 2 项；如果不想要 softap 功能，则无须修改第 4 项。





## 4. Declaration

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