

Fixed Building errors of 88W9098 driver for Kernel 3.1x.x

1. Test enviroment

Ubuntu 13.10

Kernel version, 3.11.0-12-generic

2. Building erros

Driver: [PCIE-WLAN-UART-BT-9098-U16-X86-17.68.1.p81-17.26.1.p81-MXM5X17277_V0V1-MGPL.zip](#)

No.1 error:

mlinux/maol_cfg80211.c:2605:14: error: 'WOAL_EVENT_CANCEL_CHANRPT' undeclared (first use in this function)

```
    evt->type = WOAL_EVENT_CANCEL_CHANRPT;
```

Fix it

Open mlinux/maol_cfg80211.c, and fix it like below:

```
#ifdef UAP_CFG80211
```

```
#if KERNEL_VERSION(3, 12, 0) <= CFG80211_VERSION_CODE
```

```
    evt->type = WOAL_EVENT_CANCEL_CHANRPT;
```

```
#endif
```

```
#endif
```

ORIGINAL IS:

.....

```
    evt->type = WOAL_EVENT_CANCEL_CHANRPT;
```

.....

Root Cause:

See maol_mail.h

```
#ifdef UAP_CFG80211
```

```
#if KERNEL_VERSION(3, 12, 0) <= CFG80211_VERSION_CODE
```

```
    WOAL_EVENT_CANCEL_CHANRPT,
```

```
#endif
```

```
#endif
```

No.2 error

mlinux/moal_cfg80211.c:2812:22: error: 'moal_handle' has no member named 'is_cac_timer_set'

```
if (priv->phandle->is_cac_timer_set)
```

Fix it

Open mlinux/moal_cfg80211.c, and fix it like below:

```
#ifdef UAP_CFG80211
#if CFG80211_VERSION_CODE >= KERNEL_VERSION(3, 12, 0)
    if (priv->phandle->is_cac_timer_set)
        woal_cancel_chanrpt_event(priv);
#endif
#endif
```

ORIGINAL IS:

```
.....
                if (priv->phandle->is_cac_timer_set)
                    woal_cancel_chanrpt_event(priv);
.....
```

Root Cause:

See moal_mail.h

```
#ifdef UAP_CFG80211
#if CFG80211_VERSION_CODE >= KERNEL_VERSION(3, 12, 0)
    /* CAC channel info */
    struct cfg80211_chan_def dfs_channel;
    /* time set flag */
    BOOLEAN is_cac_timer_set;
    /** cac_timer */
    moal_drv_timer cac_timer __ATTRIB_ALIGN__;
    /** cac bss index */
    t_u8 cac_bss_index;
#endif
#endif
```

No.3 error

mlinux/woal_pcie.c:600:3: error: implicit declaration of function 'woal_do_flr' [-Werror=implicit-function-declaration]

```
woal_do_flr(handle, true, false);
```

Fix it

Open mlinux/woal_pcie.c, and fix it like below:

```
if (!keep_power) {
#if LINUX_VERSION_CODE >= KERNEL_VERSION(3, 18, 0)
    woal_do_flr(handle, true, false);
#endif
    handle->surprise_removed = MTRUE;
    handle->is_suspended = MTRUE;
}
```

ORIGINAL IS:

```
.....
if (!keep_power) {
    woal_do_flr(handle, true, false);
    handle->surprise_removed = MTRUE;
    handle->is_suspended = MTRUE;
}.....
```

Root Cause:

In woal_pcie.c, conditional compilation is used in front of woal_do_flr() function

```
#if LINUX_VERSION_CODE >= KERNEL_VERSION(3, 18, 0)
```

```
/**
```

```
* @brief Function to process pre/post PCIe function level reset
```

```
*
```

```
* @param handle    A pointer to woal_handle structure
```

```
* @param prepare   True :- its a pre FLR call from the kernel
```

```
*                False :- its a post FLR call from the kernel
```

```
* @param flr       True: call from FLR
```

```
*
```

```
* Note: This function is mix of woal_switch_drv_mode() and
```

```
* remove_card(). Idea is to cleanup the software only without
```

```
* touching the PCIe specific code. Likewise, during init init
```

```
* everything, including hw, but do not reinitiate PCIe stack
```

```
*
```

```
* @return          MLAN_STATUS_SUCCESS or MLAN_STATUS_FAILURE
```

```
*/
```

```
static mlan_status
```

```
woal_do_flr(woal_handle *handle, bool prepare, bool flr_flag)
```

```
.....
```

No.4 error

/mlinux/woal_pcie.c:669:3: error: implicit declaration of function 'woal_do_flr' [-Werror=implicit-function-declaration]

```
woal_do_flr(handle, false, false);
```

Fix it

Open mlinux/woal_pcie.c, and fix it like below:

```
if (!keep_power) {
    handle->surprise_removed = MFALSE;
#if LINUX_VERSION_CODE >= KERNEL_VERSION(3, 18, 0)
    woal_do_flr(handle, false, false);
#endif
} else {
    if (woal_check_driver_status(handle)) {
```

ORIGINAL IS:

```
.....
if (!keep_power) {
    handle->surprise_removed = MFALSE;
    woal_do_flr(handle, false, false);
} else {
    if (woal_check_driver_status(handle)) {
.....
```

Root Cause:

In woal_pcie.c, conditional compilation is used in front of woal_do_flr() function

```
#if LINUX_VERSION_CODE >= KERNEL_VERSION(3, 18, 0)
```

```
/**
```

```
* @brief Function to process pre/post PCIe function level reset
```

```
*
```

```
* @param handle    A pointer to woal_handle structure
```

```
* @param prepare   True :- its a pre FLR call from the kernel
```

```
*                 False :- its a post FLR call from the kernel
```

```
* @param flr       True: call from FLR
```

```
*
```

```
* Note: This function is mix of woal_switch_drv_mode() and
```

```
* remove_card(). Idea is to cleanup the software only without
```

```
* touching the PCIe specific code. Likewise, during init init
```

```
* everything, including hw, but do not reinitiate PCIe stack
```

```
*
```

```
* @return          MLAN_STATUS_SUCCESS or MLAN_STATUS_FAILURE
```

```
*/
```

```
static wlan_status
```

```
woal_do_flr(woal_handle *handle, bool prepare, bool flr flag)
```

Then run make build in wlan_src subdirectory. In wlan_src subdirectory, file list is like below:

```

  gpl-2.0.txt  mlan          mlan.mod.c  mlinux      moal.mod.c  modules.order
  README_MLAN README_WIFIDIRECT
  Makefile    mlan.ko     mlan.mod.o  moal.ko    moal.mod.o  Module.symvers
  README_RBC  script
  mapp        mlan.mod     mlan.o      moal.mod    moal.o      README
  README_UAP
```

And The **bin_wlan** directory will be generated, which is parallel to wlan_src and in the same level directory.

```

weidong@ubuntu:~/wifi-driver/88W9098-orginal/PCIE-WLAN-UART-BT-9098-U16-X86-17.68.1.p81-17.26.1.p81-
MXM5X17277_V0V1-MGPL/PCIE-UAPSTA-UART-BT-9098-U16-X86-17.68.1.p81-17.26.1.p81-MXM5X17277_V0V1-
MGPL$ ls
bin_wlan wlan_src
weidong@ubuntu:~/wifi-driver/88W9098-orginal/PCIE-WLAN-UART-BT-9098-U16-X86-17.68.1.p81-17.26.1.p81-
MXM5X17277_V0V1-MGPL/PCIE-UAPSTA-UART-BT-9098-U16-X86-17.68.1.p81-17.26.1.p81-MXM5X17277_V0V1-
MGPL$
```

Checking bin_wlan directory, like below

```

weidong@ubuntu:~/wifi-driver/88W9098-orginal/PCIE-WLAN-UART-BT-9098-U16-X86-17.68.1.p81-17.26.1.p81-
MXM5X17277_V0V1-MGPL/PCIE-UAPSTA-UART-BT-9098-U16-X86-17.68.1.p81-17.26.1.p81-MXM5X17277_V0V1-
MGPL/bin_wlan$ ls
config mlan2040coex mlan.ko moal.ko README_MLAN README_UAP
uaputl.exe wifidirect wifidisplay
load mlanevent.exe mlanutl README README_RBC
README_WIFIDIRECT unload wifidirectutl
weidong@ubuntu:~/wifi-driver/88W9098-orginal/PCIE-WLAN-UART-BT-9098-U16-X86-17.68.1.p81-17.26.1.p81-
MXM5X17277_V0V1-MGPL/PCIE-UAPSTA-UART-BT-9098-U16-X86-17.68.1.p81-17.26.1.p81-MXM5X17277_V0V1-
```

88W9098 driver compilation for kernel V3.11 is done.

NXP Global CAS connectivity Team
Weidong Sun
12-28-2021