NRC7292 Evaluation Kit User Guide

(Recovery)

Ultra-low power & Long-range Wi-Fi

Ver 1.0
May 30, 2020

NEWRACOM, Inc.

Contents

List of Tables

No table of figures entries found.

List of Figures

1 Recovery

Target firmware could be recovered by recovery application. The recovery application is located in host side. It uses the netlink command to check the target status. To use Host Recovery, the user should run 'run_recovery.py' after starting the station. The detail description is below.

- 'run_ recovery.py' is a userspace application for the Host Recovery.
- Driver triggers recovery by transmitting netlink message to the application.
- The application reloads driver and restarts hostapd/wpas when triggered.
- Startup Routine must be defined in accordance with the FW/Driver/Config files that are initially used.
  - Example is defined under *def startup().*
- The script accepts 3 arguments- station type, security type, and country code- which will work the same as the arguments in 'start.py.'
- The application must be started after the initial startup is completed (or startup routine must be executed before establishing netlink connection within the application).
- The application does not have to be restarted after the recovery.
- You may need to install an additional python library in order to run the script.
  - $ sudo pip install libnl

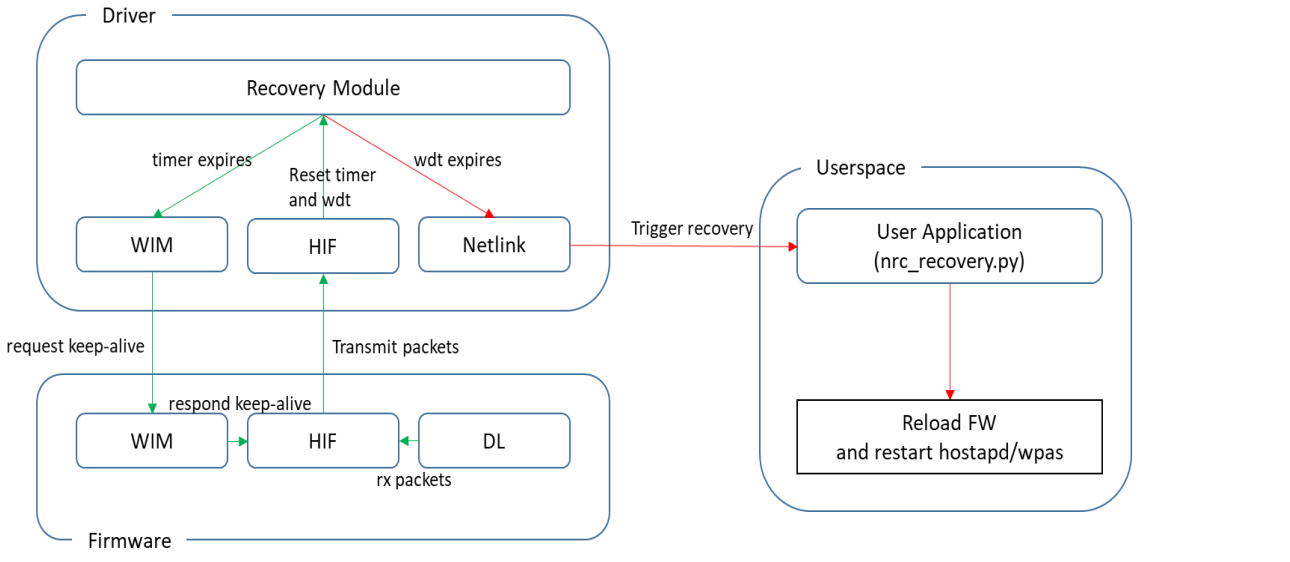

Figure 1.1 NRC7292 Host Recovery Design

Driver

Recovery	
void nrc_recovery_wdt_init(int period, struct nrc *)	static void nrc_recovery_wdt_bark(struct timer_list *)
-Setup timer and wdt with the given period.	-Invoked to run recovery when the wdt expires.
void nrc_recovery_wdt_kick(void)	static void nrc_recovery_wdt_poll(struct timer_list *)
-Reset timer and wdt.	-Invoked to send WIM request to FW when timer expires.
void nrc_recovery_wdt_clear(void)	static void nrc_recovery_trigger(struct work_struct *)
-Delete timer.	-Wrapper function to invoke nrc_netlink_recovery().

WIM
void nrc_wim_request_keep_alive(struct nrc *)
-Send WIM event to FW to request keep-alive.

Netlink
void nrc_netlink_recovery(struct nrc)
-Send Netlink msg to userspace app to trigger recovery.

Firmware

WIM
static SYS_BUF* on_keep_alive_request(const int, const struct nrc_tlv **)
-Send WIM event to let driver know FW is alive when requested.

Figure 1.2 NRC7292 Host Recovery APIs

2 Revision history

Revision No	Date	Comments
Ver 1.0	05/30/2020	Initial version