



Summary of Wireless Workshop netdev2.2

Johannes Berg

November 2017

Linux Wireless



- Realtek
- Marvell



- enforcement of radio parameters in firmware
- (ETSI) limited EDCA parameters



- enforcement of radio parameters in firmware
- (ETSI) limited EDCA parameters



- enforcement of radio parameters in firmware
- (ETSI) limited EDCA parameters



new regulatory database

- loaded into kernel (3.5KiB)
- extensible format



- pending patches
 - monitor mode / radiotap
 - blocking wifimon eBPF filter



802.11 to/from 802.3 offload

- pending patches
- monitor mode / radiotap
- blocking wifimon eBPF filter



802.11 to/from 802.3 offload

- pending patches
- monitor mode / radiotap
- blocking wifimon eBPF filter



- sometimes people want to introspect wifi frames
- socket filters exist
- BUT: `skb_copy()` before sending packets to monitor interface is expensive
- solution: add eBPF filter before `skb_copy()`



- sometimes people want to introspect wifi frames
- socket filters exist
- BUT: `skb_copy()` before sending packets to monitor interface is expensive
- solution: add eBPF filter before `skb_copy()`



- sometimes people want to introspect wifi frames
- socket filters exist
- BUT: `skb_copy()` before sending packets to monitor interface is expensive
- solution: add eBPF filter before `skb_copy()`



- sometimes people want to introspect wifi frames
- socket filters exist
- BUT: `skb_copy()` before sending packets to monitor interface is expensive
- solution: add eBPF filter before `skb_copy()`



- Toke will explain in his talk @ 1pm



- next upcoming PHY standard
- takes tricks from LTE
- many things to do:
 - radiotap
 - new management elements/frames
 - requires Multi-BSSID support



- next upcoming PHY standard
- takes tricks from LTE
- many things to do:
 - radiotap
 - new management elements/frames
 - requires Multi-BSSID support



- next upcoming PHY standard
- takes tricks from LTE
- many things to do:
 - radiotap
 - new management elements/frames
 - requires Multi-BSSID support



- today: each BSSID sending beacons
- Multi-BSSID changes that
- but requires client updates – needed in Linux



- today: each BSSID sending beacons
- Multi-BSSID changes that
- but requires client updates – needed in Linux



- today: each BSSID sending beacons
- Multi-BSSID changes that
- but requires client updates – needed in Linux



- **Simultaneous Authentication of Equals**
- elliptic curve crypto in auth handshake
- which is offloaded with CONNECT cmd
- multiple potential solutions



- Simultaneous Authentication of Equals
- elliptic curve crypto in auth handshake
- which is offloaded with CONNECT cmd
- multiple potential solutions



- Simultaneous Authentication of Equals
- elliptic curve crypto in auth handshake
- which is offloaded with CONNECT cmd
- multiple potential solutions



- Simultaneous Authentication of Equals
- elliptic curve crypto in auth handshake
- which is offloaded with CONNECT cmd
- multiple potential solutions



What is NAN?

- device-to-device discovery
- energy-efficient
- intended to work well in crowded environments
- extensions under work for data transfer

<https://www.wi-fi.org/discover-wi-fi/wi-fi-aware>



Intel working on

- protocol implementation in wpa_supplicant
- scheduling support etc. needed in device
- will likely add some level of hwsim support for testing



EAPOL over nl80211 (instead of datapath)



netlink extended ACK



simplify hostapd "fully-featured" configuration



802.11 mesh



FTM



VHT extended NSS support



Questions/Comments?