Miracast on Linux

- HDMI over IP over Wifi
- Source → Sink via Wifi-P2P

Wifi Specs

- IEEE 802.11
- Wifi-P2P → Wifi Direct
- Wifi-Display → Miracast

Architecture

- P2P Transport Setup

- IP Link Setup

- TCP/UDP for A/V

Transport

- enumeration
- negotiation
- IP link setup

Enumeration

- wifi-scan
- IEs as filter
- (service discovery)

Negotiation

- wifi-P2P...
- ...or TDLS

- WPS + WPA2

IP link setup

- IPv6
- neighborhood discovery

IP link setup

- IPv6

- neighborhood discovery

- IPv4 + DHCP

But…

But...

- Drivers:
- not working:

  b43, brcmsmac, rtl818x, ath5k

- supposed to work:

  ath9k, ath10k, ath6k, iwl-mvm, brcmfmac

- what actually works:

  ?

- iwl-mvm + intel wifi 7260
- wpa_supplicant: git-78f79fe5fc251e3a

"HDMI over IP"

- RTSP + RTP + h264 + audio + mpeg2-TS

Additional Features

- PTP
- HDCP
- UIBC
- split-sink

Others

- AirPlay
- Chromecast