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Channel Sniffer/monitor



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1 year ago · Updated

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Overview

With the `runtest_monitor.sh` script you can turn a MK5 into a real-time channel sniffer.

It captures all packets of the selected channel and forwards it over the network as UDP packets to an PC which is running Wireshark. Wireshark has to run on the PC, since the MK5 has no video, mouse and keyboard.

MK5

Start the `runtest_monitor.sh` on the MK5

```
cd /opt/cohda/test  
./runtest_monitor.sh <channel> <IP addr PC> target
```

<channel> is the channel number. The Control Channel in US is 172 in EU it is 180 in EU

<IP addr PC> is the IP address of the PC which is running the Wireshark

For monitoring two channels in parallel `runtest_dual_monitor.sh` can be used.

```
./runtest_dual_monitor.sh <channel_1> <channel_2> <IP addr PC> target
```

If you don't have root privileges (e.g. logged in as duser) you need to use 'sudo' in front of the commands

Note:

NOTE:

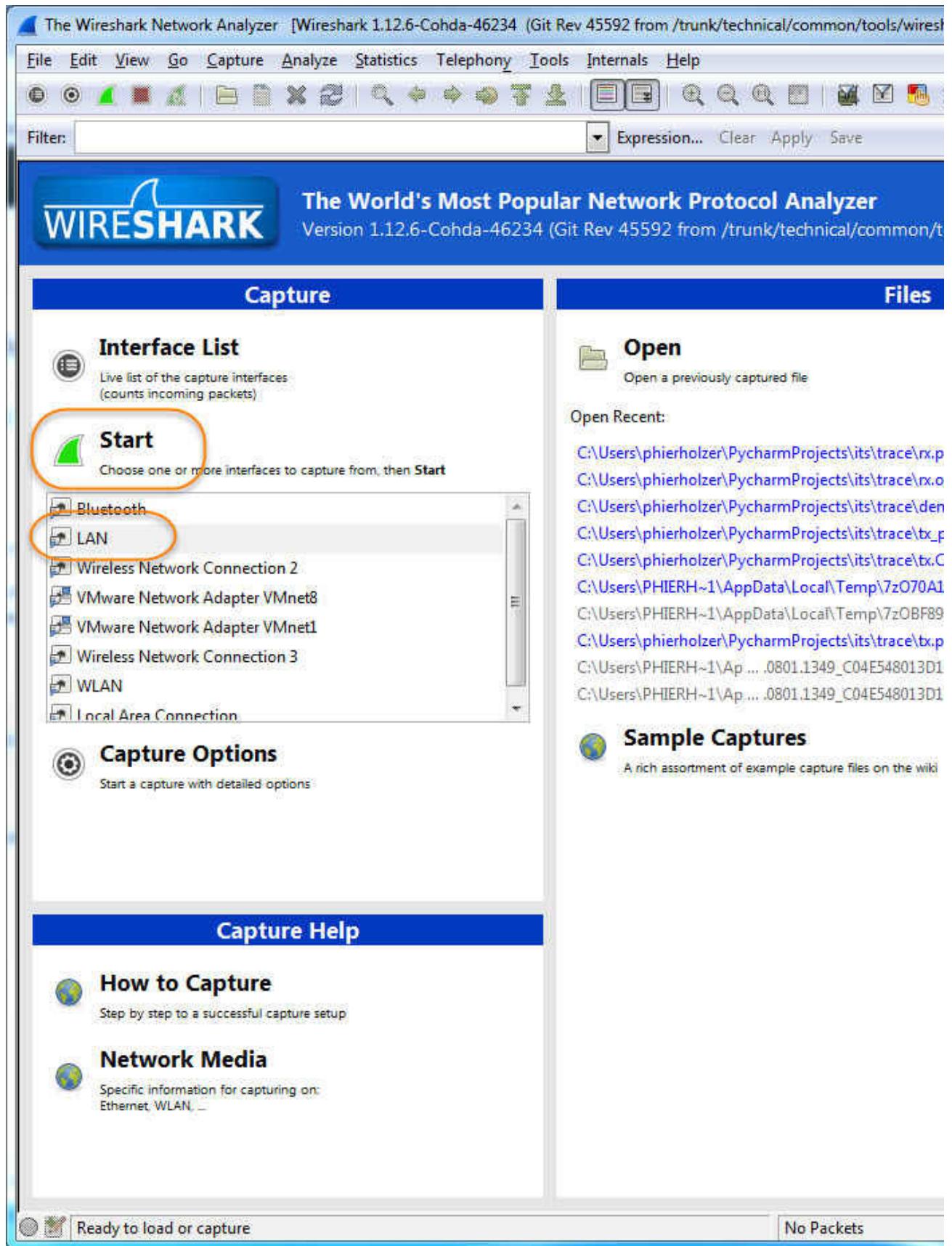
The runtest_monitor script unloads the 1609 stack. It only uses the 1609.4 layer and LLC. For US applications the 1609 stack has to be reloaded by running the command: [sudo rc.1609 restart](#)

Console Output

```
root@MK5:~# cd /opt/cohda/test
root@MK5:/opt/cohda/test# ./runtest_monitor.sh 180 192.168.53.0 target
Using: ./runtest_monitor.sh 180 192.168.53.0 target
Interface:          wave-raw
Channel: CCH
Radio: A
ChannelNumber:  180
DefaultMCS:     10
DefaultTxPower: 40
DefaultTRC:     0
DefaultTPC:     0
Bandwidth:      10
DualTxControl:  0
ChannelUtilisationPeriod: 49
TxAntenna:      3
RxAntenna:      3
MACAddr: 00:00:00:00:00:00
Filter:          0x88b6
MAC Address: 00:00:00:00:00:00
  ChannelNumber:  180
  DefaultMCS:     10
  DefaultTxPower: 40
  DefaultTRC:     0
  DefaultTPC:     0
  Bandwidth:      10
  DualTxControl:  0
  ChannelUtilisationPeriod: 49
  TxAntenna:      3
  RxAntenna:      3
  MACAddr: 00:00:00:00:00:00
  Filter:          0x88b6
-r 192.168.53.0
-p 37008
-l 1400
-u 0
-i cw-mon-rxa
-H 0
-t 0x00
```

PC

Start the Wireshark on the PC and select the LAN/Ethernet interface



For displaying only DSRC packets add the display filter 'udp.port == 37008'

Capturing from LAN [Wireshark 1.12.6-Cohda-46234 (Git Rev 45592 from /trunk/technical/common/tools/wireshark)]

File Edit View Go Capture Analyze Statistics Telephony Tools Internals Help

Filter: **udp.port == 37008** Expression... Clear Apply Save

No.	Time	Source	Destination	Protocol	Length
384	19.626435000	Cohdawir_00:00:01	Broadcast	ITS	2
385	19.672860000	Cohdawir_00:00:01	Broadcast	ITS	2
386	19.673290000	Cohdawir_00:00:01	Broadcast	ITS	2
387	19.866706000	Cohdawir_00:00:01	Broadcast	ITS	2
388	19.963061000	Cohdawir_00:00:01	Broadcast	ITS	1
389	20.065351000	Cohdawir_00:00:01	Broadcast	ITS	2
393	20.167168000	Cohdawir_00:00:01	Broadcast	ITS	2
396	20.366988000	Cohdawir_00:00:01	Broadcast	ITS	2
401	20.606005000	Cohdawir_00:00:01	Broadcast	ITS	2
402	20.626822000	Cohdawir_00:00:01	Broadcast	ITS	2
406	20.673218000	Cohdawir_00:00:01	Broadcast	ITS	2
407	20.673671000	Cohdawir_00:00:01	Broadcast	ITS	2
410	20.866532000	Cohdawir_00:00:01	Broadcast	ITS	2
412	20.963057000	Cohdawir_00:00:01	Broadcast	ITS	1
420	21.065133000	Cohdawir_00:00:01	Broadcast	ITS	2
421	21.166911000	Cohdawir_00:00:01	Broadcast	ITS	2
425	21.366993000	Cohdawir_00:00:01	Broadcast	ITS	2

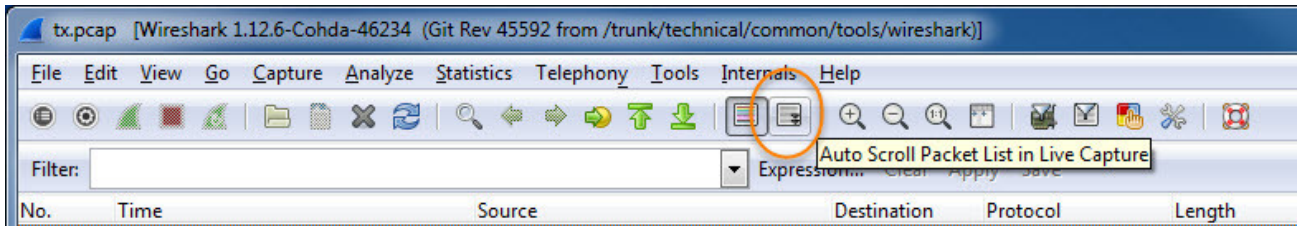
Frame 406: 289 bytes on wire (2312 bits), 289 bytes captured (2312 bits) on interface
 Ethernet II, Src: Cohdawir_01:3d:1c (04:e5:48:01:3d:1c), Dst: LcfcHefe_5e:3a:45 (28:
 Internet Protocol Version 4, Src: 192.168.52.241 (192.168.52.241), Dst: 192.168.53.0
 User Datagram Protocol, Src Port: 46946 (46946), Dst Port: 37008 (37008)
 TZSP: IEEE 802.11:
 IEEE 802.11 QoS Data, Flags:
 Logical-Link Control
 GeoNetworking: Common (GeoBroadcast circle)
 Basic Transport Protocol (Type B)
 ETSI TC-ITS (DENM)

0000 28 d2 44 5e 3a 45 04 e5 48 01 3d 1c 08 00 45 00 (.D^:E..H.=...E.
 0010 01 13 17 13 40 00 40 11 37 85 c0 a8 34 f1 c0 a8@.@.7...4...
 0020 35 00 b7 62 90 90 00 ff aa e1 01 00 00 12 f0 01 5..b....

Frame (289 bytes) Bitstring tvb (6 bytes) Bitstring tvb (6 bytes) Bitstring tvb (1 byte)

LAN: <live capture in progress> File: C:\Users\PHIERH~1\AppData\Local\Temp\wireshark_pcap... Packets: 1050 · Display

The received packets are showing in realtime in the Wireshark.



If you want to stop the scrolling click the 'Autoscroll' icon in the icon bar

To obtain TZSP header in the packets

- Check that environment variable " `mon_format` " is 0.

```
sudo fw_printenv mon_format
```

- If it is not 0, set it to 0 and restart radio

```
sudo fw_setenv mon_format 0  
sudo sync  
sudo rc.1609 restart
```



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