

OpenXCP manual

Date: 08.12.2017

Author: Michael Wolf



XCP configuration

Open XCP

FileHelp

RecordDeviceEditor

FilesTransport protocolXCPEventsDAQ

XCP version

1.0

Timeout

1000

ms

Endianness

Little-endian

Little-endian

Big-endian

Max CTO

8

Byte

Adress granularity

BYTE

Max DTO

80

Byte

Info log

ELF file has been modified. New parsing required.
OpenXCP project loaded from: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json

Open XCP

FileHelp

RecordDeviceEditor

FilesTransport protocolXCPEventsDAQ

	Name	Channel	Rate in ms
1	10ms	0	10
2	100ms	1	100

InsertDelete

Event configuration

Insert new event

Name

nonCyclic

Channel

2

Rate

non cyclic

ms

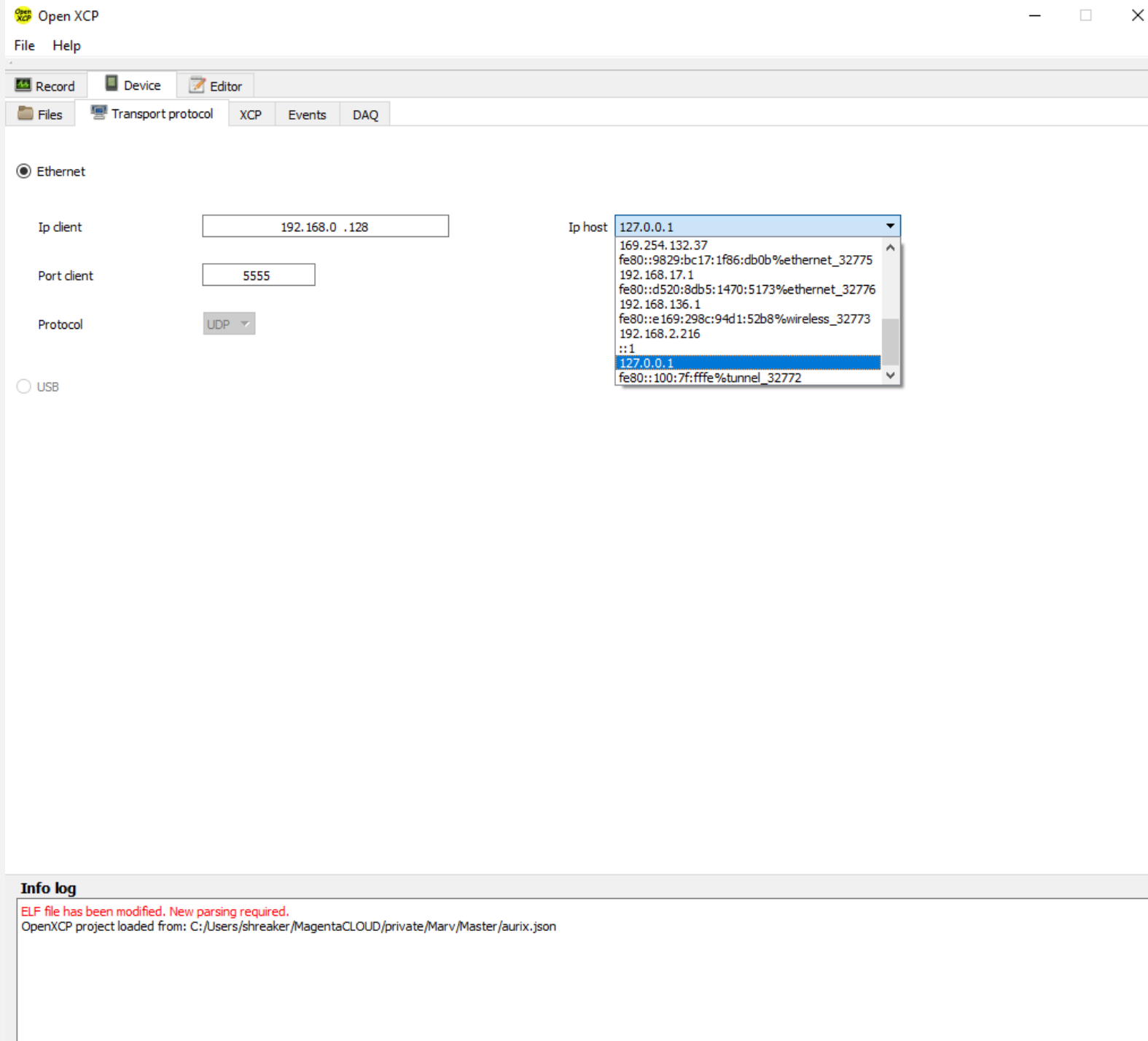
OK

Cancel

Info log

ELF file has been modified. New parsing required.
OpenXCP project loaded from: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json

Event configuration



Transport protocol configurarion

Parse ELF + source

Open XCP

FileHelp

RecordDeviceEditor

Parse ELF + sourceParse ELFParse source☐ Only with source XCP-comment100%

	★ Selected	Datatype	Name	Address	Comment	Abstract type
1		long unsigned int	backgroundlightmin	70012474	backgroundlig...	variable
2		long unsigned int	backgroundlightmax	70012470	backgroundlig...	variable
3	★ select	long unsigned int	backgroundlightdelta	7001246C	backgroundlig...	variable
4	★ select	long unsigned int	backgroundlightsize	70012468	backgroundlig...	variable
5		long unsigned int	time_out_bkgnd	70012478		variable
6		float	die_temp	700124C8		variable
7		float	die_highest	700124C4		variable
8		float	die_lowest	700124C0		variable
9		float	core_voltage	700124EC		variable
10		float	core_volt_min	700124E8		variable
11		float	core_volt_max	700124E4		variable
12		float	Vddp3	700124E0		variable
13		float	Vddp2_min	700124DC		variable

GeneralAddressTypePhysical

Conversion rule

Unit

☐ Discrete

Minimum phys. range

Maximum phys. range

km/h

-1000

1000

Info log

ELF file has been modified. New parsing required.
OpenXCP project loaded from: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json

Record configuration

Open XCP

File Help

Record Device Editor

Connect Disconnect Configuration Start Stop

Measurement

	Id	Name	Value	Phy. unit	Comment
1					
2					
3					
4					
5					
6					
7					
8					
9					

Record configuration

Configure and select variables

	★ Selected	Name	Object type	Trigger	Rate
1	★ select	backgroundlightsize	MEASUREMENT	polling	55
2	★ select	testCounter	MEASUREMENT	polling	100
3	★ select	modifyMe	CHARACTERISTIC	100ms	100
4	★ select	testCounterNegative	MEASUREMENT	10ms	10
5		testArray_0_	MEASUREMENT	polling	500
6		testArray_1_	MEASUREMENT	polling	500
7		testArray_2_	MEASUREMENT	polling	500
8		testArray_3_	MEASUREMENT	polling	500
9		testArray_4_	MEASUREMENT	polling	500
10		testArray_5_	MEASUREMENT	polling	500
11		testArray_6_	MEASUREMENT	polling	500
12		testArray_7_	MEASUREMENT	polling	500
13		testArray_8_	MEASUREMENT	polling	500

OK

Calibration

	Id	
1		
2		
3		
4		
5		
6		
7		
8		
9		

Info log

ELF file has been modified. New parsing required.

OpenXCP project loaded from: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json

Record configuration

Open XCP

File Help

Record Device Editor

Connect Disconnect Configuration Start Stop

Measurement

	Id	Name	Value	Phy. unit	Comment
1					
2					
3					
4					
5					
6					
7					
8					
9					

Record configuration

Configure and select variables

	Selected	Name	Object type	Trigger	Rate
1	★ select	backgroundlightsize	MEASUREMENT	polling	55
2	★ select	testCounter	MEASUREMENT	polling	100
3	★ select	modifyMe	CHARACTERISTIC	100ms	100
4	★ select	testCounterNegative	MEASUREMENT	10ms	10
5					500
6					500
7					500
8					500
9					500
10		testArray._5_	MEASUREMENT	polling	500
11		testArray._6_	MEASUREMENT	polling	500
12		testArray._7_	MEASUREMENT	polling	500
13		testArray._8_	MEASUREMENT	polling	500

Trigger select

Trigger: 100ms
polling
10ms
100ms

Rate

OK Cancel

OK

Calibration

	Id	Name	Value	Phy. unit	Comment
1					
2					
3					
4					
5					
6					
7					
8					
9					

Info log

ELF file has been modified. New parsing required.

OpenXCP project loaded from: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json

Record session

Open XCP

File Help

Record

Device

Editor

Connect

Disconnect

Configuration

Start

Stop

Measurement

	Id	Name	Value	Phy. unit	Comment
1	3	backgroundlig...	50	km/h	backgroundlig...
2	4	testCounter	216	km/h	Vehicle speedl
3	5	testCounterNe...	-640	km/h	signed int
4					
5					
6					
7					
8					
9					

Calibration

	Id	Name	Value	Phy. unit	Comment	Minimum value	Maximum value	Step size
1	6	modifyMe	50	minutes	ModifyMe Co...	0	50000	2
2								
3								
4								
5								
6								
7								
8								
9								

Info log

OpenXCP project exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json
OpenXCP project exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json
OpenXCP project exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json
OpenXCP project exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json
A2I exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.a2I
A2I exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.a2I
A2I exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.a2I
A2I exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.a2I
A2I exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.a2I
OpenXCP project exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json

Record session
calibrate

Open XCP

File Help

Record Device Editor

Connect Disconnect Configuration Start Stop

Measurement

	Id	Name	Value	Phy. unit	Comment
1	3	backgroundlig...	50	km/h	backgroundlightsize
2	4	testCounter	198	km/h	Vehicle speedl
3	5	testCounterNe...	552	km/h	signed int
4					
5					
6					
7					
8					
9					

Calibration

	Id	Name	Value	Phy. unit	Comment	Minimum value	Maximum value	Step size
1	6	modifyMe	50	minutes	ModifyMe Comment	0	50000	2
2								
3								
4								
5								
6								
7								
8								
9								

Open XCP Calibration integer ? X

Set Value for modifyMe

103

OK Cancel

Info log

OpenXCP project exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json

OpenXCP project exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json

OpenXCP project exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json

OpenXCP project exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json

A2I exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.a2I

A2I exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.a2I

A2I exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.a2I

A2I exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.a2I

A2I exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.a2I

A2I exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.a2I

OpenXCP project exported to: C:/Users/shreaker/MagentaCLOUD/private/Marv/Master/aurix.json

Record CSV example

	A	B	C	D	E
1	date	time			
2	08.12.2017	11:40:44			
3					
4	t[s]	modifyMe[minutes]	testCounterNegative[km/h]	testCounter[km/h]	backgroundlightsize[km/h]
5	0.020000		-850		
6	0.030000		-850		
7	0.039000		-850		
8	0.049000		-850		
9	0.059000		-850		
10	0.064000				50
11	0.069000		-850		
12	0.079000		-850		
13	0.089000	103	-850		
14	0.099000		-850		
15	0.104000			62	
16	0.109000		-850		
17	0.120000		-849		
18	0.125000				50
19	0.130000		-849		
20	0.139000		-849		
21	0.149000		-849		
22	0.159000		-849		
23	0.169000		-849		
24	0.179000		-849		
25	0.188000				50
26	0.189000		-849		
27	0.190000	103			
28	0.207000		-849		
29	0.217000		-849		
30	0.225000			62	
31	0.226000		-848		
32	0.234000		-848		
33	0.241000		-848		
34	0.249000				50
35	0.256000		-848		

A2L export example

```
A2L_Example.a2l
841
842  /* OpenXCP Ethernet */
843
844  /begin XCP_ON_UDP_IP
845      0x0100
846      0x15B3
847      ADDRESS "192.168.0.128"
848  /end XCP_ON_UDP_IP
849
850  /end IF_DATA
851  /begin IF_DATA CANAPE_ADDRESS_UPDATE
852  /end IF_DATA
853
854  /begin MOD_PAR ""
855  /end MOD_PAR
856
857  /* OpenXCP MEASUREMENT / CHARACTERISTIC */
858
859  /begin MEASUREMENT backgroundlightmin "backgroundlightmin"
860      A_UINT64 NO_COMPU_METHOD 0 0 -1000 1000
861      READ_WRITE
862      ECU_ADDRESS 0x70012474
863      ECU_ADDRESS_EXTENSION 0x0
864      FORMAT "%.15"
865      /begin IF_DATA CANAPE_EXT
866          100
867          LINK_MAP "backgroundlightmin" 0x70012474 0x0 0 0x0 1 0x0 0x0
868          DISPLAY 0 -1000 1000
869      /end IF_DATA
870      SYMBOL_LINK "backgroundlightmin" 0
871      PHYS_UNIT "km/h"
872  /end MEASUREMENT
```

Project file example (JSON)

```
Project_File_Example.json
1  {
2    "ethernet": {
3      "ip client": "192.168.0.128",
4      "ip host": "192.168.0.209",
5      "port client": 5555,
6      "protocol": "UDP"
7    },
8    "files": {
16   "variables": [
17     {
18       "DISCRETE": false,
19       "ECU_ADDRESS": "0x70012474",
20       "MAX_REFRESH": 100,
21       "PHYS_UNIT": "km/h",
22       "READ_WRITE": true,
23       "XcpType": "MEASUREMENT",
24       "abstract datatype": "variable",
25       "conversion": "",
26       "datatype": "long unsigned int",
27       "long id": "backgroundlightmin",
28       "lower limit": -1000,
29       "name": "backgroundlightmin",
30       "size": 4,
31       "upper limit": 1000
32     },
144  {
162  {
178  },
179  "xcp configuration": {
180    "DAQ": "dynamic",
181    "address granularity": "BYTE",
182    "endian": "Little-endian",
183    "events": [
184      {
185        "channel": 0,
186        "name": "10ms",
187        "rateInMs": 10
188      },
189      {
190        "channel": 1,
191        "name": "100ms",
192        "rateInMs": 100
193      }
194    ],
195    "max CTO": 8,
196    "max DTO": 80,
197    "timeout": 1000,
198    "transport protocol": "Ethernet",
199    "xcp version": "1.0"
200  }
201 }
202 }
```