

EC-Master EtherCAT Master

Step by Step Guide for VxWorks7 Marketplace

Step 1: Setup the target

- See section VxWorks, SNARF link layer for how to prepare the operating system. The VxWorks image should support SNARF END driver should be loaded (check it using muxShow)
- The slaves have to be connected with the VxWorks system using an Ethernet switch or a patch cable.
- You should never connect your local IT infrastructure together with EtherCAT modules at the same switch as the EtherCAT master will send many broadcast packets.
- EtherCAT requires a 100Mbit/s connection. If the VxWorks network adapter card does not support this speed an 100Mbit/s (!) Ethernet switch has to be used.
- A second, dedicated Network Interface for EtherCAT is recommend



Step 2: Download the modules

- Select the binaries matching your system architecture in the folder:
`[VxWorksInstallDir]\partners\acontis_ecmaster-x.x.x.x\Bin\VxWorks70\`
- Deploy these binaries to your target or make them accessible by the target.
- Load the default link layer module emllSnarfGpp.out:
`ld<emllsnarfgpp.out`
- The master stack is a library and is linked to the application. Load it on the target.
`ld<ecmasterdemo.out`

Step 3: Run the example application

```
sp atemDemo, "-snarf fei0 -v 3"
```

This demo application scan the EtherCAT network and will set all the slaves into PREOP

Please check the product manual for the next steps.

```
172.17.7.148 - PuTTYtel
-> ld<emllsnarfcpp.out
value = 74655968 = 0x47328e0
-> ld<ecmasterdemo.out
value = 77017104 = 0x4973010
-> sp atemDemo, "-snarf fei0 -v 3"
Task spawned: id = 0x4910320, name = t1
value = 76612384 = 0x4910320 = ' '
-> Full command line: -snarf fei0 -v 3

Run demo now with cycle time 1000 usec
Using Sleep

=====
Initialize EtherCAT Master
=====

EtherCAT Master V2.7.2 Build 03 Copyright acontis technologies GmbH
Install SNARF protocol on <fei>, unit 0
Bus scan successful - 2 slaves found

*****
Number      : 0
Vendor ID   : 0x00000002 = Beckhoff Automation GmbH
Product Code: 0x044D2C52 = EK1101
Revision    : 0x00110000 Serial Number: 0
ESC Type    : Beckhoff ET1100 (0x11) Revision: 0 Build: 0
Bus AutoInc Address: 0 (0x0)
Bus Station Address: 0001 (0x1)
Bus Alias Address : 3101 (0xc1d)
Connection at Port 0: yes Port 1: yes Port 2: no Port 3: no
SlaveID at Port 0: -1 Port 1: 1 Port 2: -1 Port 3: -1
Config Station Address: 0001 (0x1)

*****
Number      : 1
Vendor ID   : 0x00000002 = Beckhoff Automation GmbH
Product Code: 0x10243052 = EL4132
Revision    : 0x03FA0000 Serial Number: 0
ESC Type    : Beckhoff ET1100 (0x11) Revision: 0 Build: 2
Bus AutoInc Address: 65535 (0xffff)
Bus Station Address: 0002 (0x2)
Bus Alias Address : 0000 (0x0)
Connection at Port 0: yes Port 1: no Port 2: no Port 3: no
SlaveID at Port 0: 0 Port 1: -1 Port 2: -1 Port 3: -1
Config Station Address: 0002 (0x2)
EtherCAT network adapter MAC: 00-0E-0C-A9-79-28

=====
Start EtherCAT Master
=====

Master state changed from <UNKNOWN> to <INIT>
Master state changed from <INIT> to <PREOP>
No ENI file provided. EC-Master started with generated ENI file.
```