



# Xenomai-Driver

Developed under Linux version 2.6, the current Xenomai driver support the full range of features provided for the FlexCard in realtime.

## Supported Hardware

- FlexCard Cyclone II (SE)
- FlexCard PMC/PCI

## Supported Linux-Kernel- and Xenomai versions

- Linux-Kernel version 2.6.20x <= 2.6.20.15
- Xenomai v2.3.3

## Supported architectures

- 32 Bit Intel (x86)

## Technical Data (SW only)

- Kernel-module as direct interface to the hardware
- Upon Kernel module shared library with user-interface

## General requirements

In order to use xenomai for realtime applications, the user has to patch the Linux Kernel and install the xenomai libraries.

The operation of one or more FlexCards using xenomai is only possible if the HW is operated on one interrupt line which is not via IRQ-Sharing used by non xenomai devices.

It is not possible to mix realtime and non realtime devices by using the same IRQ.

## Functionality

- Transmit and receive of FlexRay-messages
- Receive activities via FIFO or Receive-Buffer possible
- Asynchrone monitoring (e.g. recording of startup)
- Eventhandling of NewCycle-, WakeUp- and Timer-Events
- Enable / disable reception of Nullframes
- Transmit acknowledgement
- Transmit and receive of FlexRay-Symbols and Wake-Up-Pattern
- Synchron state of network will be reported immediately with timestamp
- Error conditions (e.g. Bus-/ Syntaxerror) are reported directly to the user
- Parallel mode of up to 4 cards supported
- Enables realtime operations in userspaced

## Shipment

The Xenomai driver will be delivered as Debian-packet (.deb-format)

- Kernel-Module
- Shared Library
- Header-Files for API-Access
- API-Dokumentation in English
- Examples with sourcecode