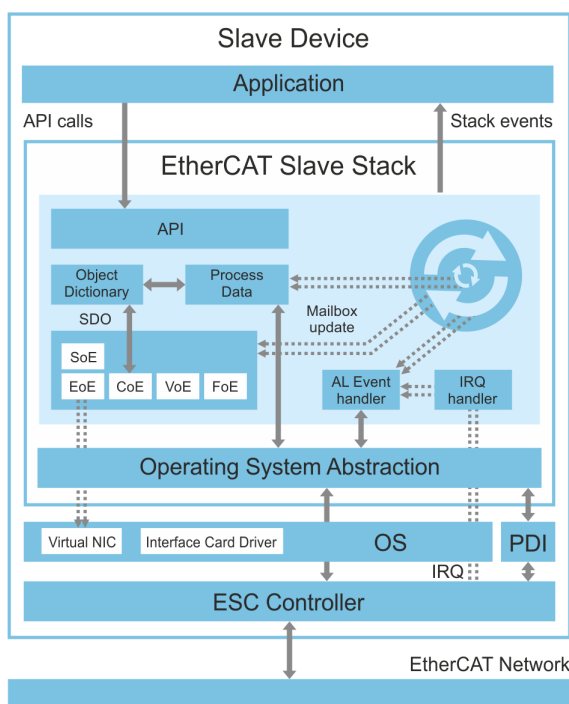


# KPA EtherCAT Slave Stack

KPA EtherCAT Slave Stack is a software stack designed to run on microcontrollers, CPUs or DSPs with or without any Operating System (OS). It is provided either as a source code or as a compiled library.

## Key Features

- Verified with EtherCAT Conformance Test Tool (CTT)
- Code written in "ANSI C"
- Small footprint for 8 and 16 Bit microcontrollers:
  - SAB 80x16x (Infineon)
  - XMC4800 (Infineon)
  - MicroBlaze (Xilinx)
  - Sitara AM335x with integrated ESCin PRUs (Texas Instruments)
  - C2000 (Texas Instruments)
  - STM32 (ST)
  - NIOS II (Intel FPGA/Altera)
  - ARM v3 – 9 (ARM)
  - ATmega128 (Atmel)
  - PPC 52xx, MPC8536 (Freescale)
- Depending on size of Object Dictionary and Process Image:
  - RAM size depends on size of Object Dictionary (OD): for static OD  $\geq$  3 KB Basic (8 KB Standard)
  - ROM (flash)  $\geq$  55 KB Basic (64 KB Standard)
- Various PDI usage (see samples in SSDK)



## Interfaces

- Compatible with various EtherCAT Slave Controllers (ESC), including Beckhoff (ASIC, IP core) and TI (PRU)
- IRQ handling of hardware events
- Polling of Mailbox and Process / Service Data
- Supported operating systems:
  - Linux (with/without RT-Preemption patch)
  - Linux with Xenomai
  - QNX
  - SYS BIOS
  - VxWorks
  - Windows
  - INtime
  - RTX / RTX64
  - OS-less
- Hardware Abstraction Layer instead of separate “defines”

## Standard Class bundle

- Mailbox protocols: CoE, EoE, FoE, SoE, VoE
- Runtime generation / changing of Object Dictionary (OD)
- Adapted to operating system by using Operating System Abstraction Layer (OSAL)
- Virtual Ethernet card support for EoE (depending on OS)

## Basic Class bundle

- Mailbox protocol: CoE
- Static Object Dictionary with pointer given from application
- With / without Interrupt Service Routines (ISR)

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