

CANoe osCAN Library

Emulation of OSEK-OS Applications with CANoe

CANoe (CAN Open Environment) supports the entire development process for networked systems, from the planning to the production phase. With the CANoe osCAN Library, CANoe’s mechanisms for simulating the CAN bus can also be used for developing and testing ECU code. The use of OSEK-OS and Vector’s CANbedded components are the only prerequisites whereas an expensive target platform is not needed.

Features and Advantages

Using the CANoe osCAN Library, OSEK-OS applications can be executed on a PC. This has the advantage that an ECU’s software can be developed independently of its hardware and leads to a considerable reduction of time and development costs:

- > No target platform is required
- > The development can be decentralized
- > No delays due to hardware unavailability

In addition, ECU tests can be easily developed using standard CANoe features.

Functions

OSEK-OS applications are compiled with the Microsoft Visual C++ compiler version 6.0, 7.1 or 8.0 and linked to the CANoe osCAN library. The resulting Dynamic Link Library (DLL) can be integrated directly into CANoe, which means that all of CANoe features are available to virtual OSEK nodes. CANoe can therefore be used to perform remaining bus simulation and to analyze the bus traffic (e.g. via Trace Window, Graphic Window, logging, etc.).

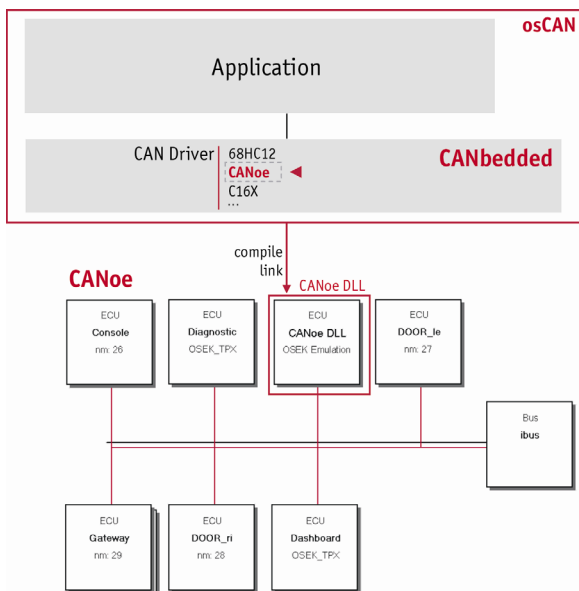
Special Functions

- > Integration of the higher layers of the Vector CANbedded software components (CCP, transport protocol, network management, interaction layer, and diagnostics).
- > Easy debugging of the application (breakpoints in the DLL stop the entire CANoe simulation).
- > Creation of special DLLs for testing ECUs with access to all CANoe features.

Application Areas

The increasing complexity of ECUs demands a development process, which allows the ECU’s software to be implemented at different development sites.

With the CANoe osCAN Library it is possible to develop and test the ECU’s functionality without needing an expensive target platform.



Functions of the osCAN operating system

By wrapping the main routine of an ECU's application into an OSEK task, the CANoe osCAN Library can also be used for non-OSEK ECU software.

Interfaces to CANoe

The I/O interfaces of the hardware can be simulated completely by CANoe. CANoe environment variables offer a generic interface for this type of data exchange. The user only has to create an abstraction layer, which can be replaced by a target-specific I/O access when the final hardware is available.

CAN and LIN bus access is provided by a specially adapted driver. This driver supports the standard CAN/LIN driver API from Vector, which is already used in many mass-production applications. Only small changes are, therefore, necessary when switching to the real target platform.

Higher-layer CANbedded components based on the Vector standard driver API can also be easily integrated using the generation tool for configuring the driver's parameters.

The ECU code is therefore executable on the real hardware without any further modifications.

Training

As part of our training program, we offer a range of classes and workshops on CANbedded and osCAN in our classrooms and onsite at our customers.

For more information and the dates of our training courses, please visit our homepage on the Internet at: www.vector-academy.com

Included with Delivery

The following components are included with delivery:

- > Operating system kernel compliant with OSEK OS specification 2.2 (packaged as library)
- > OIL configurator with graphical user interface
- > Generation tool and CANoe-specific drivers for the bus systems CAN and LIN
- > Documentation
- > Sample applications

Related Vector Products:

- > osCAN
- > CANbedded
- > CANbedded LIN Communication
- > CANoe and DENoe

Availability

The CANoe osCAN Library is available for Windows operating systems. The CANoe osCAN Library is available with the CAN and LIN Driver adapted for CANoe or part of a CANbedded delivery as an add-on package.

For more information visit our homepage:

www.vector-informatik.com/english/embedded