Solutions for CAN/CAN FD

The Vector Solutions for CAN Networks – Software, Hardware & Services
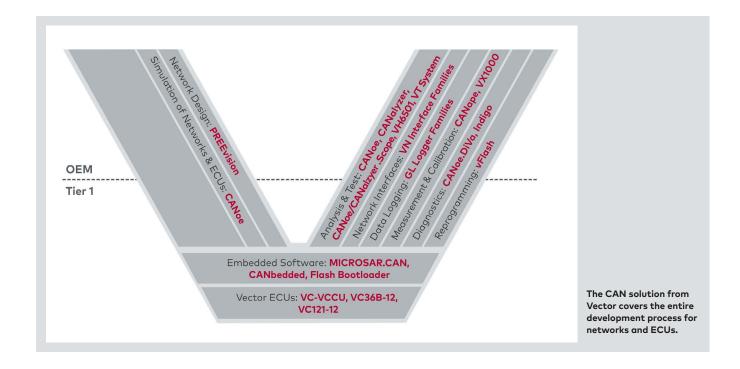
Classic CAN and improved CAN FD

> **CAN** is a message oriented multi-master protocol for quick serial data exchange between electronic control units in automotive engineering and factory automation.

> **CAN FD** is an enhancement of the CAN protocol. The main differences to CAN are the extended payload from 8 up to 64 bytes, and the ability to send the payload with higher data rates. In this way, the requirements for higher bandwidth networks in the automotive industry are fulfilled, while profiting from the experiences in CAN development.

Overview of Advantages

> Practice-proven CAN products and competent services based on Vector's many years of experience in automotive networking
> Support of the improved CAN protocol CAN FD
> Universal tool chain makes it easy to integrate new technologies in existing vehicle architectures

Software

> **CANoe** – Simulation and testing of ECUs and entire networks with a single tool for CAN and CAN FD
> **CANalyzer** – Analyzing the entire vehicle communication across network boundaries for CAN and CAN FD
> **VT System** – Modular test environment for efficient ECU and functional tests. CANoe is the related test automation software.
> **CANoe/CANalyzer .Scope** – Integrated oscilloscope solution for CANoe and CANalyzer. Support of CAN, CAN FD and LIN.
> **CANape** and **VX1000** – Measurement, calibration and flashing over XCP with high data throughput resulting in minimal runtime effects on the ECU
> **CANoe.DiVa** – Automated testing of diagnostic protocol implementation and integration in ECUs
> **Indigo** – Diagnostics quick and easy with DoIP and OBD support
> **vFlash** – Very easy to use tool for flashing one or more ECUs
> **PREEvision** – Tools for the design of network architectures

OEM
Tier 1

Network Design; Simulation of Networks & ECUs: **PREEvision**
Simulation of Networks & ECUs: **CANoe**
Analysis & Test: CANoe, CANalyzer; **CANoe/CANalyzer .Scope**, VH6501, VT System
Network Interfaces: VN Interface Families
Data Logging: GL Logger Families
Measurement & Calibration: CANape, VX1000
Diagnostics: CANoe.DiVa, Indigo
Reprogramming: vFlash

Embedded Software: **MICROSAR.CAN, CANbedded, Flash Bootloader**

Vector ECUs: **VC-VCCU, VC36B-12, VC121-12**

The CAN solution from Vector covers the entire development process for networks and ECUs.

Embedded Software

> **MICROSAR.CAN** – Contains basic software modules for CAN and CAN FD communication that are defined in the AUTOSAR architecture
> **CANbedded** – Configurable software components for CAN communication. Its used by numerous OEMs world-wide.
> **Flash Bootloader** – Used to reprogram ECUs quickly, efficiently and reliably

Universal ECU

Vector Controllers are ECUs for specific use cases with a focus on data communication. Whether charging communication (**VC-VCCU**), ethernet gateway (**VC36B-12**) or multi-gateway (**VC121-12**): Benefit from proven hardware already qualified for vehicle use. In addition to CAN, the Vector Controllers have numerous interfaces and features for successful prototype or serial use.

Engineering Services

Vector offers you expert advice services:
> **Seminars and workshops**
> **Technical consultation**
> **Project support**
The knowledge of our experienced employees is your advantage for efficient and customer-specific CAN solutions.

More information: www.vector.com/can

Network Interfaces

Tool	PC Connection	Network
VH6501 (the device is also a CAN disturbance interface; to be used with CANoe only)	USB	CAN/CAN FD
VN1530, VN1531	PCIe	CAN/CAN FD, LIN, SENT
VN1610, VN1611, VN1630A, VN1630log, VN1640A	USB	CAN/CAN FD, J1708, LIN, SENT*
VN4610	USB	CAN/CAN FD, IEEE 802.11p
VN5610A, VN5640	USB	CAN/CAN FD, Ethernet
VN7572	PCIe	CAN/CAN FD, FlexRay, J1708, LIN
VN7610	USB	CAN/CAN FD, FlexRay
VN7640	USB, Ethernet	CAN/CAN FD, DoIP, FlexRay, LIN
VN8810	USB, WiFi	CAN/CAN FD, DoIP, LIN
VN8911, VN8914, VN8970, VN8972	USB (RT PC), Ethernet	CAN/CAN FD, FlexRay, J1708, LIN
Bus transceivers for CAN/CAN FD, FlexRay, J1708, LIN and SENT as Piggyback		

* only VN1640A

Further Hardware Tools

Tool	Feature	Network
GL1000, GL1010, GL1020FTE	Mobile data loggers to record the data communication of small networks	CAN, LIN
GL2000, GL2010	Mobile data loggers to record the data communication of moderate-sized networks	CAN, LIN
GL2400		CAN/CAN FD, LIN
GL3000, GL3100, GL3200	Mobile data loggers to record the data communication of extensive networks	CAN, LIN, MOST150
GL4000, GL4200		CAN, FlexRay, LIN, MOST150
GL5350, GL5370	Mobile data loggers to record the data communication of very extensive networks	CAN/CAN FD, FlexRay, LIN, MOST150
CANalyzer Option .Scope	Combination of USB oscilloscope hardware and software for bit-accurate analysis of the bus communication	CAN/CAN FD, FlexRay, LIN
CANoe Option .Scope		