

# PassThru XL Library

## Use of Vector Network Interfaces for Applications that are based on SAE J2534

### What is a PassThru XL Library?

Combined with the Vector interface hardware, the Vector PassThru XL Library provides a J2534 compliant PassThru interface/device. Simultaneously, a Vector tool such as CANoe or CANape can be operated over the same network interface. Consequently, you only need one interface to operate both your J2534 application and various Vector development tools.

### Overview of Advantages

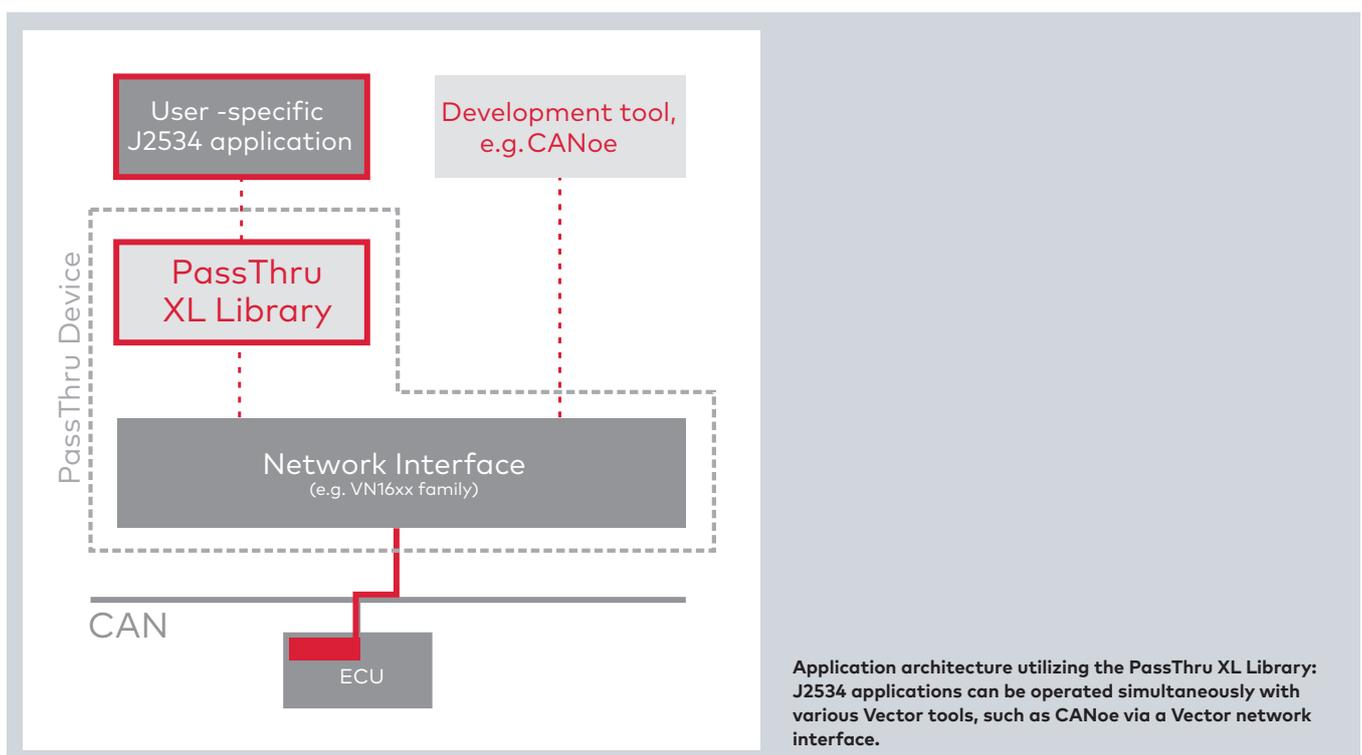
- > Standardized communication driver for the Vector network interfaces
- > ISO transport protocol implementation
- > OEM-specific applications based on J2534 can be operated via the Vector network interfaces
- > J2534 applications can be operated simultaneously with various Vector tools, such as CANoe or CANape via a Vector network interface.
- > Uniform programming interface with reasonable number of functions that conceals the hardware specifics and communication protocols

### Application Areas

In the field of vehicle electronics development and vehicle diagnostics there are many OEM-specific applications that communicate with ECUs. If these applications are based on proprietary communication solutions, exchanges between communication components involve considerable effort.

A modular and reusable solution can help here to save on costs and development effort. The SAE J2534 PassThru standard defines a common communication driver that can be used for ECU diagnostics and ECU reprogramming. If a diagnostic or reprogramming application is built upon a J2534 programming interface, then it is possible to use PassThru hardware devices from different manufacturers. This allows exchanging the communication layer without modifying the application.

For these reasons, interest is growing in ECU diagnostics and reprogramming via a PassThru interface in developing and servicing modern vehicles. For vehicles that are sold in the US market, legal requirements have even been in place since 2004 requiring that OEMs provide a PassThru-based application for reprogramming ECUs.



**Application architecture utilizing the PassThru XL Library:** J2534 applications can be operated simultaneously with various Vector tools, such as CANoe via a Vector network interface.

Vector PassThru XL Library offers here a cost-effective solution, especially for OEMs and suppliers who already use a Vector development tool with a Vector network interface and also utilize or develop J2534-based test and flash applications.

### Functions

The PassThru XL Library supports the J2534-1 standard and the most important GM-specific functions of the J2534-2 standard.

#### Supported protocols:

- > ISO15765: is fully supported
- > SW\_ISO15765\_PS: is supported (no pin switching)
- > ISO15765\_PS: is supported (no pin switching)
- > ISO15765\_FD\_PS: is supported (based on GMW17753)
- > CAN: is fully supported
- > SW\_CAN\_PS: is supported (no pin switching)
- > CAN\_PS: is supported (no pin switching)
- > CAN\_FD\_PS: is supported (based on GMW17753)

#### Supported API functions:

- > PassThruOpen
- > PassThruClose
- > PassThruConnect
- > PassThruDisconnect
- > PassThruReadMsgs
- > PassThruWriteMsgs
- > PassThruStartPeriodicMsg
- > PassThruStopPeriodicMsg
- > PassThruStartMsgFilter
- > PassThruStopMsgFilter
- > PassThruReadVersion
- > PassThruGetLastError
- > PassThruIoctl (with subset of ISO15765 parameters)

### Supported Network Interfaces

The Vector PassThru Library can be used with the following XL Hardware interfaces:

- > CANcardXL (PCMCIA)
- > CANcaseXL log (USB + Logging)
- > CANboardXL (PCI)
- > CANboardXL PCIe (PCIe)
- > CANboardXL pxi (pxi)
- > VN1610/1611/1630/1640 (USB)
- > VN7600 (USB)

**More Information:** [www.vector.com/passthruxl](http://www.vector.com/passthruxl)