

# vFlash

Flashing ECUs Easily and Quickly – over CAN, CAN FD, FlexRay, LIN or Ethernet

### What is vFlash?

vFlash is a very easy-to-use tool for programming ECUs. It supports different flash specifications (= platform flash bootloader) of more than 80 OEMs and is easily extendable via a plugin concept.

### Overview of Advantages

#### Flexible

- > Flashing via all networks relevant for diagnostics: CAN, CAN FD, LIN, FlexRay, Ethernet (DoIP, SoAd = AUTOSAR Socket Adaptor)
- > "Out-of-the-box" support for several Flash specifications from various OEMs

#### Easy

- > Easy exchange of preconfigured Flash projects in one package (.vflashpack)
- > Quick and easy creation of flash projects for different bootloaders, based on the vFlash templates

#### Fast

- > High transfer rate: Example: transfer of 1.000 kByte data in 36,6 s (27,3 kByte/s) into an idealized reference ECU over CAN at 500 kBit/s with STmin = 0, BS = 0

#### Complete

- > Support of various data formats
- > Interactive control via GUI or automated control via API
- > Remote software update/flashing from a distance

### Highlights of Version 6

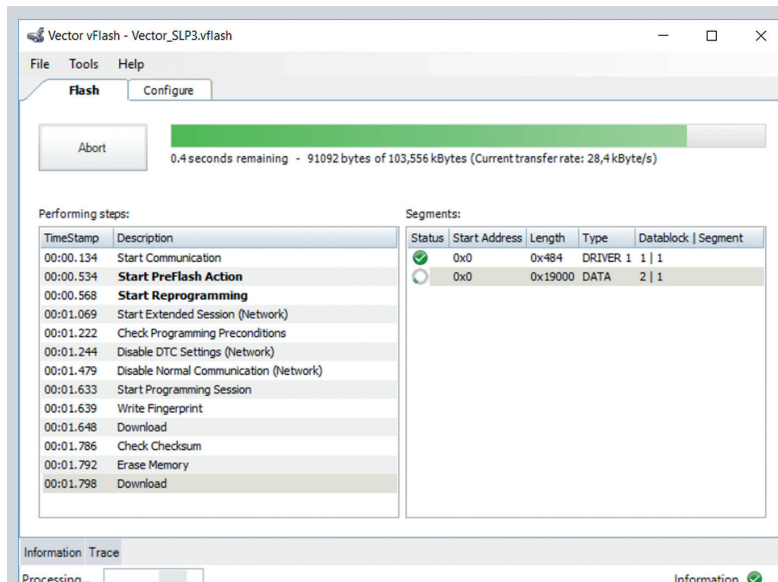
#### Security and DoIP Extensions

The Vector Security Manager is the link between the Vector tools and OEM-specific security implementations.

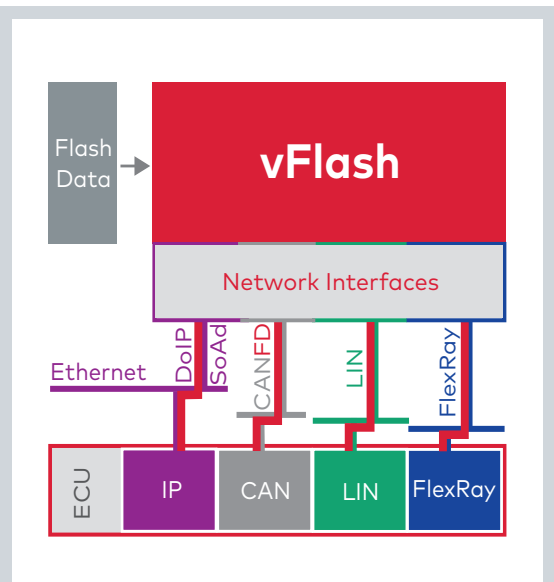
- > vFlash now supports the Vector Security Manager. This enables vFlash to authenticate itself to the vehicle/ECU - according to different OEM-specific implementations.
- > Based on the upcoming ISO standard 13400-3 for DoIP, vFlash now optionally encrypts communication based on TLS.

#### Simplified Remote Flashing

- > Starting with vFlash Remote 6, the physical communication channel is simply assigned by the expert and no longer manually by the specialist on the vehicle side.
- > Useful for remote flashing: the erase and verification phases are now displayed in the progress bar.
- > The initial password for accessing the online service can now be changed within vFlash.
- > A common remote access point is now available for vFlash Remote and Indigo Remote. It allows both flashing with vFlash Remote and performing vehicle diagnostics with Indigo Remote.



Flashing of an ECU with vFlash



vFlash supports all diagnostic relevant networks

### Further Improvements

- > Compatible exchange of projects also with previous vFlash versions by saving as previous version
- > Flashing of data with more than 4.3 GByte or addressing beyond the 4.3 GB limit is now possible
- > Support of the network-based communication concept of the new Vector Ethernet network interfaces (e.g. VN5620)
- > Simply change communication parameters temporarily via the automation interface to flash identical ECUs (e.g. in battery stacks) using a single vFlash project
- > Proprietary ODX-F extensions such as swapping Signatures to external files are now supported

### Manufacturer Support Further Expanded

- > vFlash supports more than 130 different flash bootloaders (= specifications) from various vehicle manufacturers via vFlash Templates, continuously, new ones are added.
- > Communication via HKMC Ethernet communication protocol "Eth Diag" is now possible

### Further Functions

- > Flexible referencing of flashware in the development phase for quick testing of made code changes or simple exchange of preconfigured flash projects in a single package
- > Tracing of the CAN communication for later analysis in case of an error
- > Authentication based on the cross-tool applicable Security Manager sources from OEMs and suppliers
- > Protection of DoIP communication by means of TLS (ISO13400-3).
- > Flexible extension of OEM flash sequences by so-called "custom actions", which are executed before and/or after flashing
- > Direct "native" programming of data in Intel-Hex, Motorola-S and binary format or alternatively programming based on container formats like ODX-F and manufacturer-specific formats
- > Documentation and quality assurance of flash actions in flash reports using custom action
- > Encoding or data backup with data recovery using custom actions
- > Flashing of compressed and encrypted data
- > Interactive flashing via the user interface and automated flashing via a programming interface (C API and C# API), for process integration and integration into an existing software environment
- > Validation of the flash bootloader in the ECU in combination with CANoe.DiVa (via CAN, FlexRay, DoIP, LIN)
- > Standalone flashing with the VN8810 intelligent diagnostic hardware

- > The "vFlash Station" variant enables simultaneous flashing of several ECUs, each via a separate channel
- > Simultaneous flashing of several identical LIN ECUs using "LIN Broadcast Flashing"
- > Remote flashing of ECUs from any location with vFlash Remote - can also be used outside of a company network

### Application Areas

vFlash is designed for all users at automotive OEMs and suppliers whose tasks include (re-)programming of ECUs. vFlash allows users to flash ECUs in the laboratory, at programming stations, at a laboratory vehicle or in the vehicle very efficiently - even remote from a distance.

### vFlash Bootloader Support

Vector offers prepared vFlash Templates for a large number of different automotive OEMs and bootloaders. Please contact us at: [CANdela-Info@de.vector.com](mailto:CANdela-Info@de.vector.com)

### Supported Hardware

- > CAN FD/LIN: e.g. VN16xx, VN8950, VN7572, VN8970, VN8972, VN7640
- > CAN FD/FlexRay: e.g. VN7610, VN7572, VN8970, VN8972, VN7640
- > Ethernet: e.g. VN5610A, VN5620, VN5640, VN7640, VX0312
- > VN8810 (as standalone flash device)
- > VT System

**More information:** [www.vector.com/vflash](http://www.vector.com/vflash)