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.
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 battery stack ECUs based on a 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

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