

CANdelaFlash 2.0

Management of Flash Data and Generation of ODX Flash Containers for an Assured Process

Properties Overview

- > Import and Export of ODX Flash Containers
- > Modularization of flash data
- > Management of software revision levels and part numbers
- > Administration of data for Flash ROMs
- > Reuse of diagnostic descriptions from CANdelaStudio
- > Can be used by both vehicle manufacturers and suppliers
- > Comfortable user interface

Application Areas

Today the development process for an ECU is very complex. While previously just a few ECUs were "flashable" in the vehicle, in future all ECUs will have a flash capability.

The large number of ECUs that are networked together in the vehicle, and their growing complexity and amount of programmable data will require management of the flash data for an assured process. In the future the flashing of ECU sub-functionalities will also come to the forefront.

CANdelaFlash is a software tool designed to manage these requirements.

CANdelaFlash should be used wherever process-assured flashing of ECU functionalities (full or partial) is required. It can be implemented in both ECU development at a supplier and in test vehicle or preproduction development at the vehicle OEM.

Functions

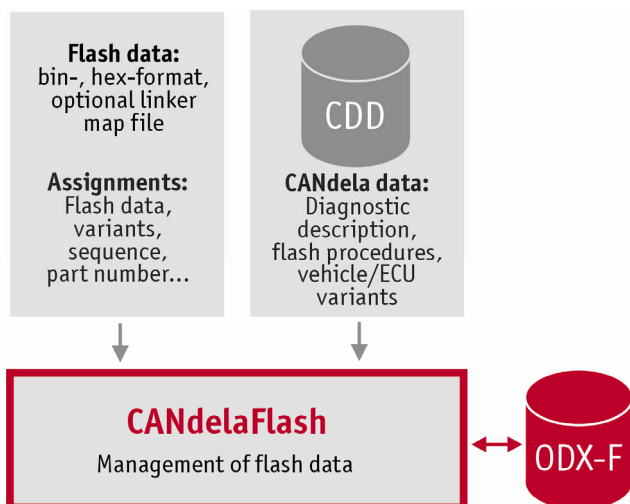
CANdelaFlash supports the import and export to the standardized ODX format completely. ODX Flash Containers can thereby be prepared at an early stage in the development process. These ODX Flash Containers have become a standard for modern flash tools used in development and production.

CANdelaFlash fits seamlessly into existing tool chains. In particular it supports the development process with other Vector products such as CANdelaStudio. Another advantage of CANdelaFlash is that it supports modularization of flash data, e.g. post-flashing of individual ECU functionalities (gear shift programs, idle-speed control, country variants, etc.).

CANdelaFlash offers a simple and easy-to-use interface. For example, the organization of a CANdelaFlash document is shown in a tree view, and most entries are made via easy-to-use tables with intuitive input masks.

Functions at a Glance:

- > Assignment of software revision levels and part numbers
- > Assignment of the various software revision levels to specific ECUs in the vehicle
- > Identification of valid target ECUs. Checking whether the session is valid for the ECU that has to be programmed.
- > User-friendly acquisition and management of binary and hexadecimal data for Flash ROMs (e.g. import of source files in "Intel Hex" and "Motorola S-Record" formats)



New Functions of Version 2.0

Data Extraction Plugin Interface

- > Interface for automatic extraction of data out of hex files at import time or interactively using the menu via OEM specific plug-in

Base Session

- > Optional definition of session defaults for a project

Session Wizard

- > Simple creation of flash sessions through configurable Session Wizard
- > Mask out unused or read only elements in the user interface

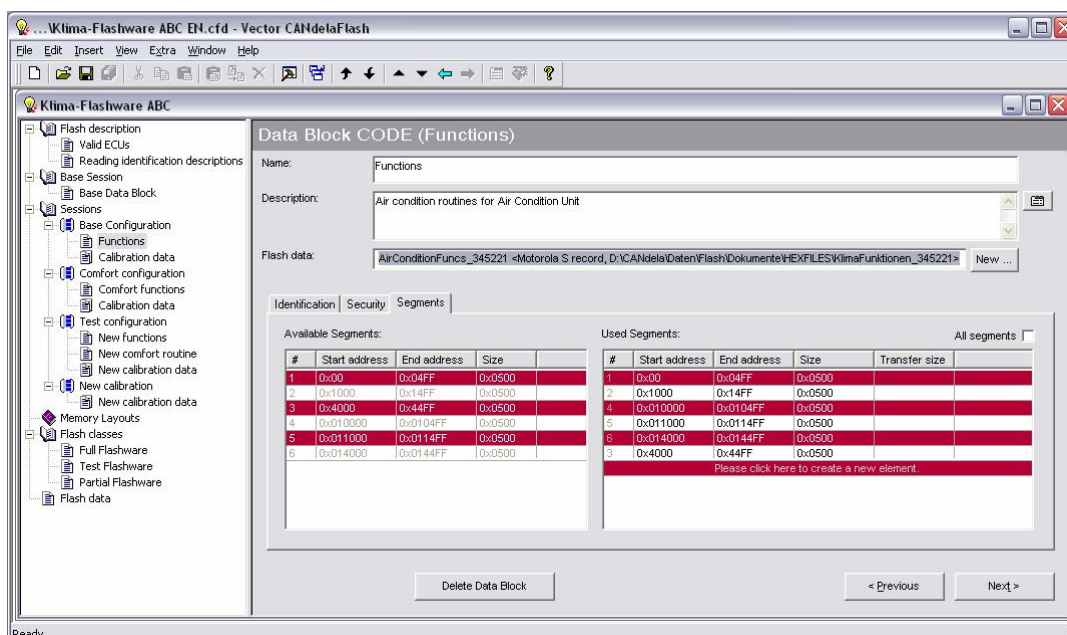
Process-assured generation of ODX Flash Container

- > Use of templates for new CANdelaFlash documents
- > Creation and editing of sessions and data blocks
- > User-friendly editing of the segments of a data block including extensive consistency checks
- > Grouping of sessions into so-called Flash Classes
- > Cut, copy, and paste functions for objects of the CANdelaFlash document
- > Searching of the CANdelaFlash database for objects by their names
- > Import and Export of the CANdelaFlash document into ODX 2.0 and ODX 2.1 data format
- > Import/export of embedded flash data from/to ODX
- > Creation and editing by authors, revision entries, and brief descriptions
- > Interfacing to external tools by user-defined actions
- > Plug-In interface for linking customer-specific security DLLs for CRC and signature calculation
- > Support of customized user settings
- > Reuse of diagnostic data (from CANdelaStudio)
- > Detailed recording of program sequences (Output Window)
- > Read and write of PDX archives (Packaged ODX)
- > Expanded format checking in attribute masks via specification of regular expressions in the template

Structure of the CANdelaFlash Data

The management and the acquisition of flash data are done comfortably via the user interface in the following structure:

- > Flash description:
 - Reference to multiple ECUs (CANdelaStudio ECU-specific descriptions; *.cdd files)
- > Base Session:
 - Optional definition of session defaults for a project
- > Sessions:
 - Session with list of data blocks. This is a list of jobs for upload/download (initial programming, reprogramming, partial reprogramming). The data blocks reference the flash data (reusable in different sessions) and they specify the segments of flash data for upload/download.
- > Memory layouts:
 - Description of the memory layouts of several ECUs
- > Flash classes:
 - User-defined organization of sessions in any desired number of flash classes
- > Flash data:
 - Database of reusable flash data



**Flash data management
with CANdelaFlash:
Structure of the
CANdelaFlash data**