

CANdb++ Admin.J1939

The Design Environment for J1939 Networks

A key component in the development of J1939 networks is the communication description in the form of DBC files. It serves as the foundation for all other development steps such as simulation and analysis of bus communications, configuration of the ECU software and detailed ECU tests.

The DBC databases describe the properties of the J1939 network, the ECUs connected to the bus and the CAN messages and signals. CANdb++ Admin.J1939 gives users the capabilities needed to visualize the DBC databases, create new databases or modify data in existing databases.

Features and Advantages

The functionality specifically tailored for J1939 bus systems and the integration of the database into the Vector tool chain for J1939 makes CANdb++ Admin.J1939 an important tool for developers of communication networks and suppliers of components.

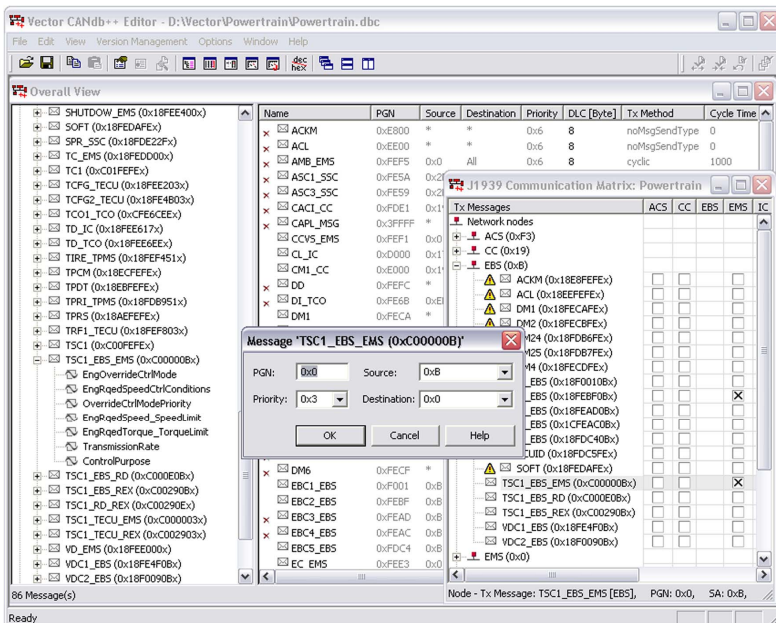
CANdb++ Admin.J1939 offers functions to draw up communication matrices for complete vehicles and it enables, among other things the exposition of the signal routing via gateways and timing analysis for estimating the run-time behavior of networks. In addition, the CANdb++ data model can be customized via additional attributes to suit various requirements.

Functions

- > Various views (e.g. network, ECU, signal) to display and process the data
- > Integration of model and code generators
- > Comparison (difference display) and merge of databases
- > Import and export opportunities (DBC, XML, CSV format) for transmitting communication data to suppliers and project partners
- > Ensure the integrity of communication through comprehensive consistency tests

Program Variants

- > The Admin Variant was developed specifically for designers of networks and communication matrices. It offers special functions:
 - > Defining multiple networks in one database
 - > Timing analysis
 - > Comparing databases
- > The Standard Variant provides possibilities for viewing data. In addition, e.g. extra test messages can be created and mapped. The Standard Variant is delivered with CANalyzer/CANoe.J1939.



Definition of CAN messages with J1939 specific parameters

Software Interfaces

CANdb++ Admin.J1939 forms the basis for the networking of the Vector tool chain for J1939 and has interfaces to the following tools: CANoe.J1939, CANalyzer.J1939, CANape, CANscope, CANstress, CANlog 3 & 4, Multilog, CANister, CANextender, CANgraph, and CANbedded Generation Tool for configuration of the Vector software components for J1939.

Application Areas

Design of communication matrices:

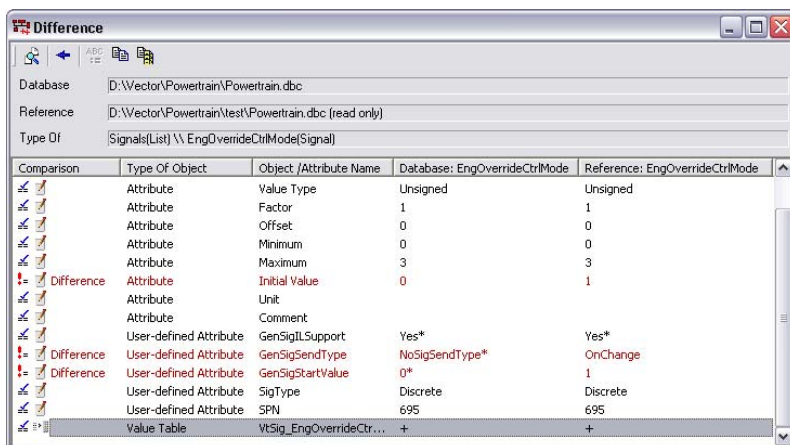
- > Definition of communication objects for several networks, ECUs and vehicles
- > Analysis of the networks with respect to the expected time behavior (bus load, transmission times, etc.)
- > Specialized, user-oriented views of the communication data
- > Specification of send and receive relationships with the necessary attributes (send behavior, cycle time, receive timeouts)

Use of data in the development process for distributed systems:

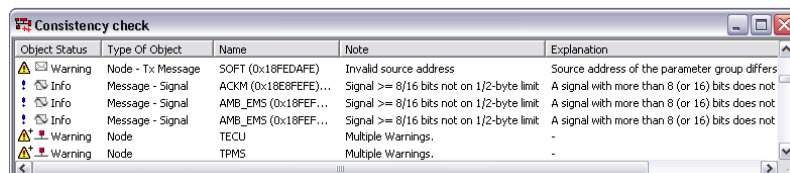
- > Exporting data subsets of a network or ECU for transfer to a supplier
- > Complete support of the Vector DBC format as a de facto standard for describing communication data

Data Model

- > Definition of communication objects (e.g. messages, signals, network participants) as well as relationships between objects (send nodes of messages, reception signals of network nodes)
- > Management of several networks and vehicles in a single database
- > Any number of assignment attributes (e.g. vehicle, serial deadline, timeouts) can be defined by the user



Difference view to compare and merge two sets of data



Consistency check of the networking data