

# Easy access to CAN network analysis

Jochen Neuffer



**Author**

Jochen Neuffer  
Product Management  
Engineer  
Vector Informatik GmbH  
Tools for Network and  
Distributed Systems  
Ingersheimer Str. 24  
DE-70499 Stuttgart  
Tel.: +49-711-80670-4808  
Fax: +49-711-80670-584808  
jochen.neuffer@vector.com

**Link**

[www.vector.com](http://www.vector.com)

Changing requirements are continually in flux when it comes to networking ECUs (electronic control units). The general trend for tasks is becoming increasingly more complex, and so they require even more complex tools. However, there are often simple tasks whose quick handling is actually hindered by this complexity when the user is confronted with a multitude of features. For such tasks, the user wants an easy-to-operate tool. However, if the task requires it, the user also wants to be able to access an extensive set of features.

These conflicting interests occur in typical tasks such as network monitoring, stimulation or data logging. In the case of monitoring, for example, different perspectives are often of interest in observing the data

traffic on the network. Here, the Trace function shows the time sequence of all network events. It is also possible to graphically display individual parameters. Moreover, the user typically wants an overview of the network statistics. In stimulation, on the other hand, specific messages need to be sent on the network either spontaneously or periodically. And of course data needs to be logged for later off-line analysis.

These three core tasks are the domains of CANalyzer Beginner, a special execution mode of CANalyzer from Vector Informatik. The mode that focuses on these core tasks is easy to operate even for new users. The individual task areas may be combined, and each may be added or removed whenever the user wishes. The full range of CANalyzer

er features is at first not visible to the user, but it can be called up at any time.

CANalyzer Beginner can be immediately used as part of any CANalyzer installation (CAN and LIN networks). This saves the user time and money, because there is no need to purchase or install a separate tool. The Beginner mode exploits the advantages of the revised window layout in CANalyzer. The individual tasks are organized on fixed desktops, which do not need to be modified, and which already contain pre-configured windows (see Figure 1). This eliminates the need for time-consuming manual configuration. Since the windows have fixed positions, it is easy to focus on the essentials. Furthermore, the windows cannot be closed, which eliminates

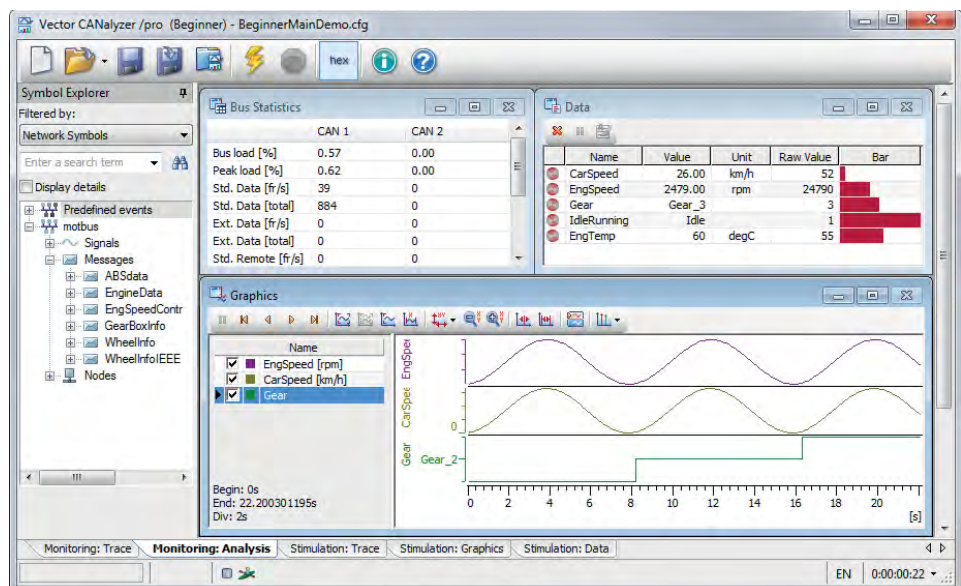


Figure 1: Desktop with fixed configuration for network monitoring task (Source: Vector Informatik)

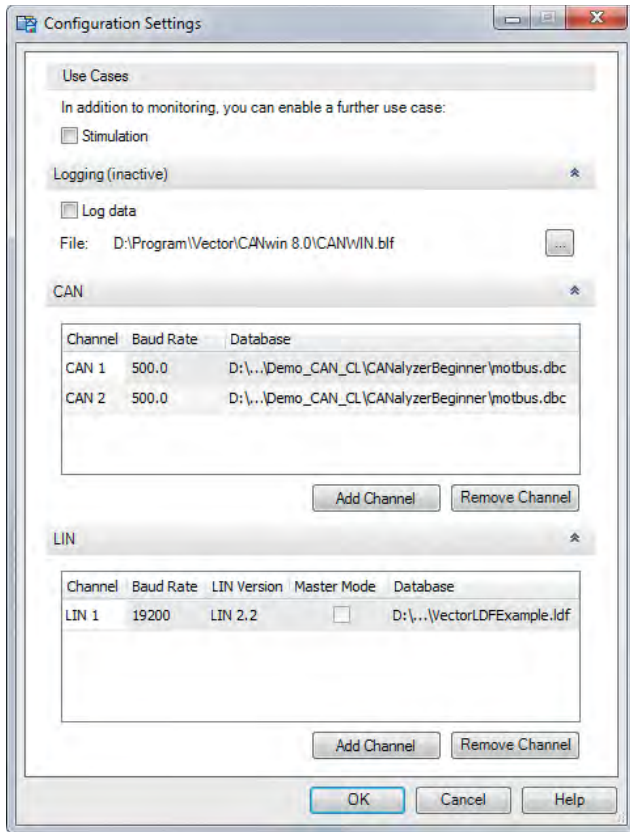


Figure 2: Creating a new configuration with CANalyzer Beginner (Source: Vector Informatik)

searching for inadvertently closed windows. The windows are configured by drag-and-drop operation or with the help of functions on the toolbar.

One can create his own configuration with a few mouse clicks. To do this, the user needs to add for each network a channel and a suitable network description file (DBC for CAN or LDF for LIN) to the central configuration window (see Figure 2). If applicable, the bit-rate is also configured, and the user then selects the tasks that need to be performed. During the measurement, for example, the Trace window offers many different options for filtering specific events, such as blocking and passing filters for messages or channels. Furthermore, the Trace window offers a long data history, so that long-term measurements over several days can be preserved. The Statistics window offers a detailed summary of the current situation

on the network and can prepare statistical information on the node level or the message level.

Also complex tasks may be performed. A configuration created with the Beginner mode can be loaded in its full form in CANalyzer. It is also possible to use CANalyzer to perform further off-line analysis of logged data. There is a seamless migration path from CANalyzer Beginner to CANalyzer. Configurations that have been created with CANalyzer Beginner can be loaded in CANoe as well.

Future planning for CANalyzer Beginner calls for supporting additional tasks and possibly adopting concepts into CANalyzer. ◀