

Hardware-based and efficient forwarding of data

Summary

The present invention is directed to a transmission device for the efficient forwarding of data in an automobile, which enables data to be transmitted efficiently on a single physical channel, for example 128 virtual data paths. The proposed invention creates devices which are unidirectional and can thus be provided with low technical effort due to the reduced complexity. The present invention is particularly focussed on the requirements in an automobile, where weight reduction and high fault tolerance are necessary. The weight saving is achieved by the simplification of conventional units, where only a single physical path is required, but the devices can handle 128 virtual data paths. Fault robustness is achieved according to the invention by making the structural components unidirectional and thus they can be created particularly easily and without error-prone structural features. The invention is further directed to an input device in the transmitting direction, which is partially functionally inverse to the output device in the receiving direction, and to a packet data processing device in the transmitting direction and in the receiving direction, and to a system arrangement comprising the proposed transmitting device and the proposed receiving device. In addition, a method is proposed as well as a computer program product comprising method steps which is suitable in a production plant for providing the system arrangement or the input device and the output device. Furthermore, a computer-readable medium is proposed comprising the control commands.

Figure 3