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Title: The CAN XL physical layer challenges

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Abstract: CAN-XL is an improvement of the well-established CAN FD protocol to increase the average bit rate in a CAN network up to 20 Mbit/s. CAN XL allows also to combination of the CAN XL protocol with CAN FD transceiver, CAN FD SIC transceiver and the new CAN XL transceiver. The presentation will present:

- CiA definition of an CAN XL eye diagram including the concept behind this definition
- The results of the CAN XL plug fests will be shown including the eye diagram
  In the plug fest different network topologies were tested like
  - Linear topology with short and long stubs
  - Daisy chain topology
  - Star Topology
- Possible arbitration bit rates:
  In CAN XL the ID is only used for arbitration only. The impact of the SIC modes of the arbitration bit rate and the resulting maximum possible distances between ECUs and under which conditions bit rates up to 1 Mbit/s in the arbitration phases are possible, will be explained.
- Hints to the Interface between Microcontroller and Transceiver:
  The interface between microcontroller and transceiver becomes more importance as higher the bit rates are. Also, the special PWM coding ends in requirements to the interface and the ECU layout.

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