

## **Abstract**

Nowadays in the automotive industry has been necessary to the use of electronic control units and control of these units. The units should be able to configure, verify the correct operation of the configuration and diagnostics performed on them. The diagnostic services have been summarized in standards, these standards are UDS and ODX. The UDS ([1]ISO14229-1 2006 Road Vehicles Unified Diagnostic Services) describes the essential communication parameters, determines the structure of each diagnostic service, request and response separately. It contains the concrete value of the general commands what works in all automotive industrial control units. The ODX ([2] ISO2291-1-ODX) standard determines a descriptor structure for the UDS's services. This description is written in XML format. My job is to make a software what could be able to create messages and interpret answers from diagnostic description.

These standards just describe about the collocation of messages, I have to present the communication layer. The gateway (TKP Fieldbus Gateway) what is used to the communication is an Ethernet-fieldbus gateway, what I present in details in the dissertation. The communication physically happens over CAN. The communication standard of CAN discussed in the [3] ISO 15765-2 2011 EN Road Vehicles – Diagnostic Communication over CAN Part 2. It contains the structure of sendable and receivable CAN messages.

In the second part of the dissertation I will present the software what I created, the processing of ODX file, the collocation of messages and the interpretation of the received answers from the gotten sample file.