Memory Requirements

The actual memory requirement for UDS protocol stack depends on the number of configurations required by the customer. However, the standard memory requirement is as follows:

- ROM: 15 Kb
- RAM: 3 Kb

Application of UDS Stack in Automotive Use Cases

As a unified diagnostic protocol, UDS finds its application in all kinds of passenger vehicles; essentially for off-board diagnostics.

Being a quite versatile protocol, UDS has an array of services (functions) that help in performing several tasks including fault diagnostics, automotive ECU reprogramming and remote diagnostics of the vehicle.

Features

- Hardware/Platform-independent
- Light-weight/Low-footprint UDS stack, designed in MISRA C compliant code
- Compatible with both RTOS and non-RTOS embedded systems
- Transport layer (ISO-15765) can handle data of more than 8 bytes
- UDS protocol Services can be included or excluded based on the project’s requirements

Engagement Model and Overview

UDS Software Stack, designed and developed by our experienced automotive team, is a ready-to-deploy, stable and pre-tested solution. UDS protocol stack has helped our global customers to reduce ECU product development cost and time.

We offer this Unified Diagnostic Services (UDS) protocol stack under a one-time licensing fee model.

Benefits of this engagement model for our customers:

- As a customer, you own the IP rights of the software as well as the source code of the UDS protocol stack
- Re-usability: With access to source code and IP rights, our customers enjoy the freedom to integrate the UDS software stack across different product lines.

UDS Stack Solution Package

The UDS protocol stack offers a set of APIs to facilitate communication between the low level software and the application software.

As UDS protocol is hardware independent, this communication can be over CAN, K-Line, Ethernet etc. The UDS Stack solution is compliant with ISO-14229 and ISO 15765 standards and consists of following layers:

1. Base Software (CAN, K-Line, Ethernet)
2. ISO 15765
3. UDS Services (ISO 14229-1)
4. User Application
UDS Stack Integration, Testing and Support Services

- Integration of UDS Stack with low-level drivers (Flash Driver, MCU, Timer etc) and Application Software

- Data Identifier (DID) and parameter configuration according to the project’s requirements

- UDS protocol Base software and Bootloader development

- Complete testing including Unit testing, Integration testing, Whitebox and Blackbox testing, CAPL script for reprogramming

- Full documentation including HLD (High-level document), LLD (Low-level document), and SRS (Software Requirement Specifications)

Get in touch with Our Team

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