CAN Bus – Real-time monitoring of vehicle status

FunCan Team – funcanfiit@gmail.com
Martin Baňas, Jaroslav Erdelyi, Tomáš Farkaš, Jakub Gedera, Ondrej Gono, Martin Hudec, Filip Tomašových
Supervisor: Ing. Peter Pištek, PhD.

What are we doing?

- Transport companies own many vehicles, which they have to keep information about

- Vehicles are equipped with **CAN bus**, which provides data from sensors in vehicle

- We collect data provided by CAN bus
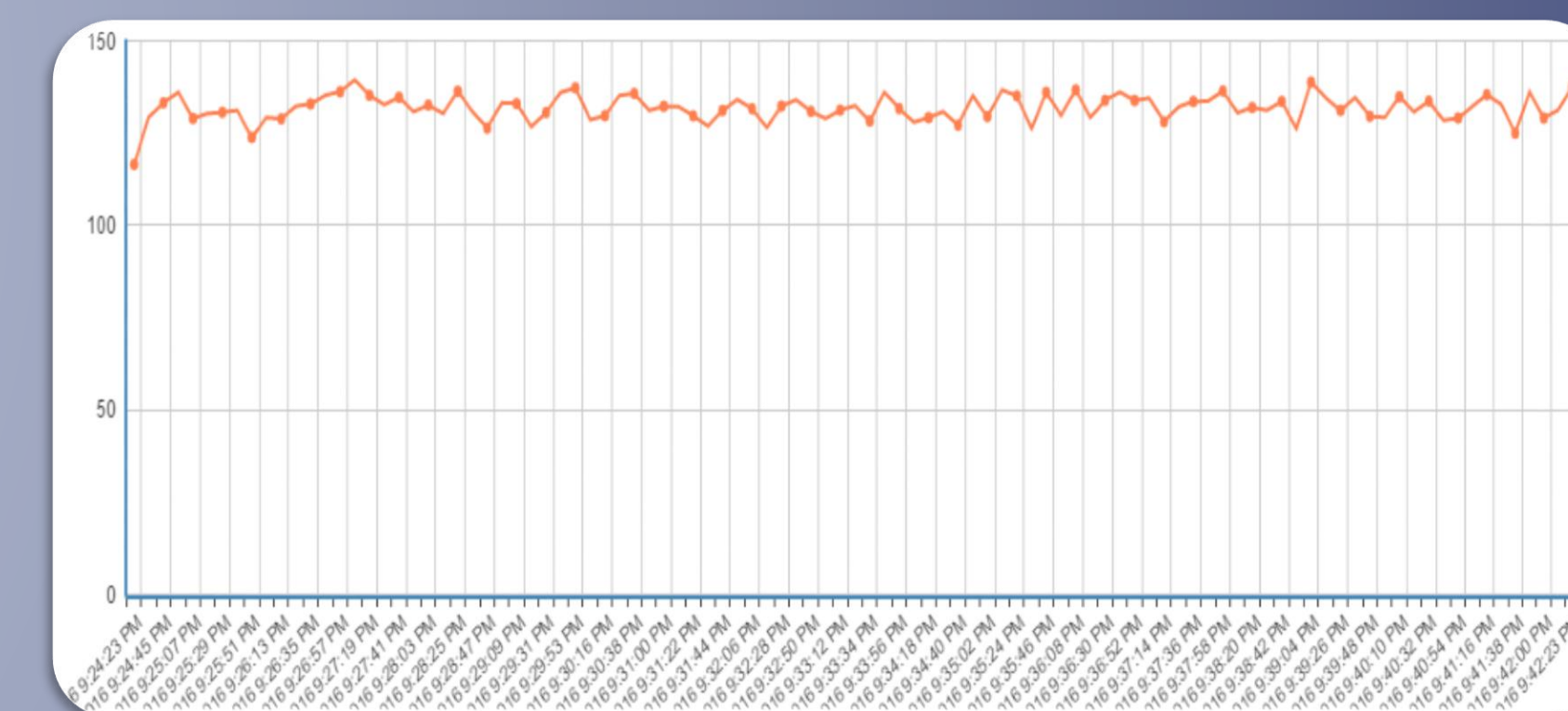
- Data are evaluated

Example frame:
AT+QLCANINFO=00,2,13728.3km,0.02l,,28.4%
,,0km/h,1073rpm,0.0%,51C,25s,0s,25s,0.02l,,
,66,,0,,,, <CR><LF>

Reporting results

- Data are stored in **MongoDB**

- We use **existing reporting tool** SLAMDATA

Examples of application

Reported data in SlamData tool

Vehicle speed		144	km/h
Engine speed		1042	rpm
Coolant temperature		0	°C
Fuel percentage		88	%
Range		12901	km
Accelerator pedal pressure		30	%

Displayed data in vehicle

Features!

- Application is **fully configurable**

- Allow to **configure**, which data should be collected, what to **log** and many other things. See example.

- Data visible for driver of vehicle are store in database and available for statistical use

- Everything is logged and divide into audit and technical log

Example of configuration

CREATE CONFIG

Super DIN ID: 1z2x3c
Used template: default   Refresh

Attribute name	Enabled
Ignition Key	☑
Total Driving Distance	☑
Total Fuel Used	☑
Fuel Level Liters	☑
Range	☑
Accelerator Pedal Pressure	☑
Total Engine Hours	☑
Total Driving Time	☑
Total Engine Idle Time	☑
Total Idle Fuel Used	☑
Driver Indicators	☑
Safety Indicators	☑
Light Indicators	☑
Driver Door	☑
Rapid Brakings	☑
Rapid Accelerations	☑

Attribute name	Enabled	Critical min. value	Critical max. value
Fuel Level Percents	☑	20.0	100.0
Vehicle Speed	☑	0.0	100.0
Engine Speed	☑	300.0	2500.0
Engine Coolant Temperature	☑	20.0	105.0
Axle Weight	☑	0.0	1000.0
Total Vehicle Overspeed Time	☑	0.0	1000.0
Total Vehicle Engine Overspeed Time	☑	0.0	1000.0

Data aggregation time [s]	60
Log aggregation time [s]	3600
Packet local storage size (max.) [MB]	100
Technical log local storage size (max.) [MB]	100
Audit log local storage size (max.) [MB]	100
Superdin Log level:	ALL

Save   Cancel