Agenda

1. Remote Diagnostic Use Cases
2. Technical Challenges
3. Technical Solution
Remote Diagnostic Use Cases

Test Drive
Remote Diagnostic Use Cases

Repair Shop
Remote Diagnostic Use Cases

Start of production (supplier / OEM)
Remote Diagnostic Use Cases

OEM Cooperation Projects

OEM A

OEM B
Remote Diagnostic Use Cases

Options

- Travelling of development engineers
- Travelling of “flying doctors”
- Return car to manufacturer
- Remote Desktop
- Logging and data transfer to an expert
1. Remote Diagnostic Use Cases

2. Technical Challenges

3. Technical Solution
Technical Challenges

Enterprise Networks

- Firewalls
- Proxy Configuration
- Restricted Access
Technical Challenges

Data Security

- Diagnostic Data
- Test Sequences
- Software
- Secure Communication Channels
Technical Challenges

Quality of Service

- Monitoring
- Latency
- Bandwidth (Uplink / Downlink)
- Reconnection after connection interruption
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Remote Diagnostics with Indigo
Technical Solution

Indigo Remote Diagnostics

Diagnostics Exchange Server
https://remote-diagnostics.de

Internet, UMTS

Vehicle Specialist, Test Driver
Indigo Access Point
Windows-PC

Network Interface

Indigo Remote Control
Windows-PC

Diagnostic Expert, Module Expert

Indigo
Remote
Control

Indigo
Access
Point

Internet, UMTS
Solution Characteristics

- Works worldwide, just requires broadband connection
Solution Characteristics

- Software, Diagnostic data, Diagnostics sequences, Security algorithms …

... are kept on the diagnostic expert’s machine in a secure environment
Technical Solution

Solution Characteristics

- Quick and easy connection setup
  The vehicle specialist starts a remote session (on a server), the diagnostic expert connects to it.
Technical Solution

Solution Characteristics

- High data transfer speed
Solution Characteristics

- Supports 3rd party diagnostic hardware via PassThru API
Advantages

- Diagnostic expert can connect to any vehicle worldwide at any time (a local test system with broadband connection assumed)
- The diagnostic expert can use his diagnostic expert tool without the need to instruct the garage specialist step-by-step.
- The vehicle specialist can support the work of the OEM expert, and interact with the vehicle, observe, answer questions.
- Issues can be evaluated when and where they show up, especially those which are hard to reproduce.
- No need to distribute diagnostic expert’s data to garage machines - exclude volume, update and security issues.
- Helps to shorten the repair time especially in remaining 1% cases.
- Helps to establish an efficient 2nd level support of diagnostic experts.
- Reduces cost, increases customer satisfaction.
For more information about Vector and our products please visit

www.vector.com

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