SDV in Commercial Vehicles PoC

Eclipse SDV Community Meeting, Bonn, Feb 2026

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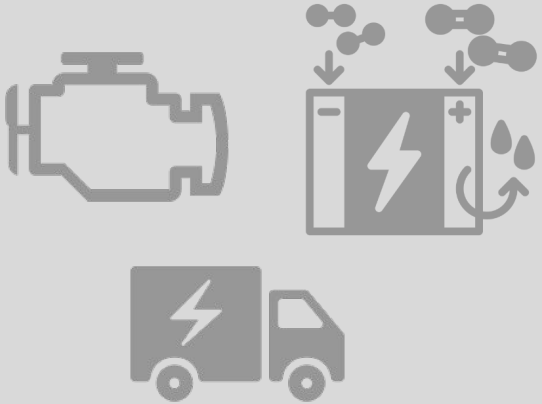
COMMERCIAL VEHICLE INDUSTRY OVERVIEW

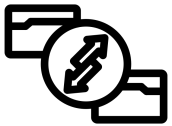
$32B USD Annual Revenue **73,000** Employees **52** Countries		 **Early Adoption of Telematics (1990s)**
100s of OEMs	**Low Volumes** **(vs. passenger car)** **Fleet Customer ROI is Primary Objective** **(low cost almost always wins)**	**Higher Variation & Smaller Scale**

Fundamental Outcomes for Success

Fully Portable Applications

Hardware agnostic; any application runs on any telematics device

Open Application Framework



Software Update Management

OEMs control framework for all types of software updates

Open Software Orchestration

Secure and Standard

Standard APIs, Protected CAN, Integrated Cybersecurity

Open API for CAN

Commercial Vehicle Blueprints Group

Purpose: Develop collaborative solutions to common Commercial Vehicle use cases that are best solved via open collaboration.

How This Will be Achieved:

- **Kick-off:** Tomorrow & Eclipse OCX, Monthly online meetings thereafter
- **Phase 1:** Use Case identification
- **Phase 2:** Blueprint (architecture diagram) creation and collaborative revision for top 2-3 use cases
- **Phase 3:** Identify feature gaps in projects within each use case and develop plan to contribute to those project
- **Phase 4:** Repeat for additional use cases

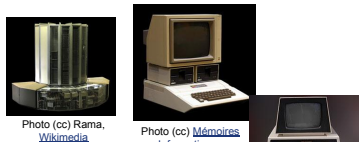
Example Use Cases

Use Case 1: How to update the firmware on an embedded ECU using a modular and open architecture

Other Potential Use Cases:

- Extraction of Euro VII In-Use Emissions Data using standard open-source interfaces / components
- Powertrain Feature Integration Service: service definition for integrating powertrain features into vehicle systems
  - Powertrain Mode Switching: Fleet manager or driver can switch between Economy and Performance settings (engine & transmission)
  - Powertrain Parameter Configuration: Simplify parameter changes and integrate rules/relationships into the configuration service
- Numerous possibilities to be identified through industry collaboration

How we scaled Software on Computers



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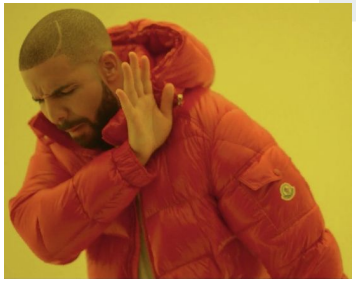
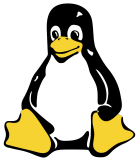
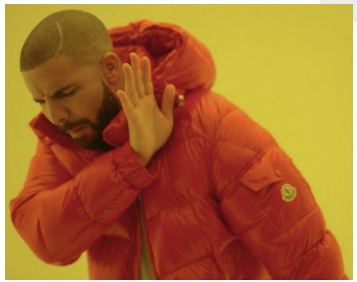


in the 1980s



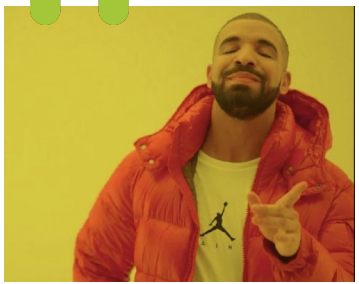
How we scaled Software on mobile Computers

Photo @ rarehistoricalphotos



in the 2010s

iOS



How might we scale Software on vehicle Computers?

x models x generations

still today

... if only there was some way...

… take the SDV buzzword seriously!

tomorrow?

Software Infrastructure needs to converge - and that is what we're building towards!

(and now we'll show you an example of what this could look like)

Make the meme guy happy: abstraction dimensions

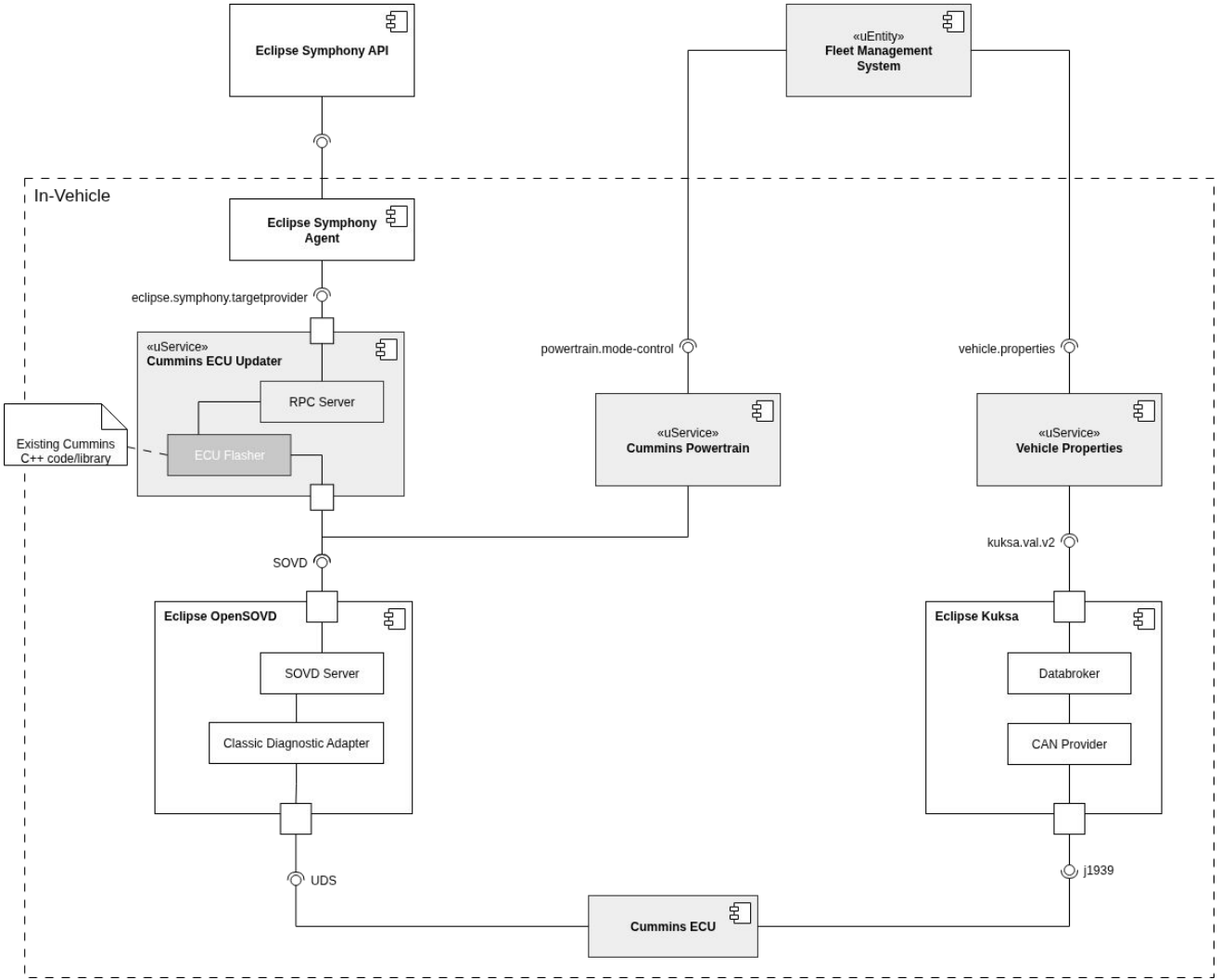
- General Capabilities
  - Software deployment, Configuration management: e.g. Eclipse Symphony, Eclipse Ankaios
  - Execution management: e.g. systemd, Eclipse BlueChi
  - Communication Abstractions/Service Mesh: e.g. Eclipse uProtocol
- Crossover Capabilities
  - Execution/state management, dependent on context factors: e.g. Eclipse Pulpiri (?)
  - Vehicle-level power management, dependent on vehicle state: ?
- Domain Capabilities
  - Unified vehicle data access: e.g. COVESA VSS, Eclipse Kuksa
  - Integration point for vehicle interaction (e.g. Diagnostics, Update): e.g. Eclipse OpenSOVD

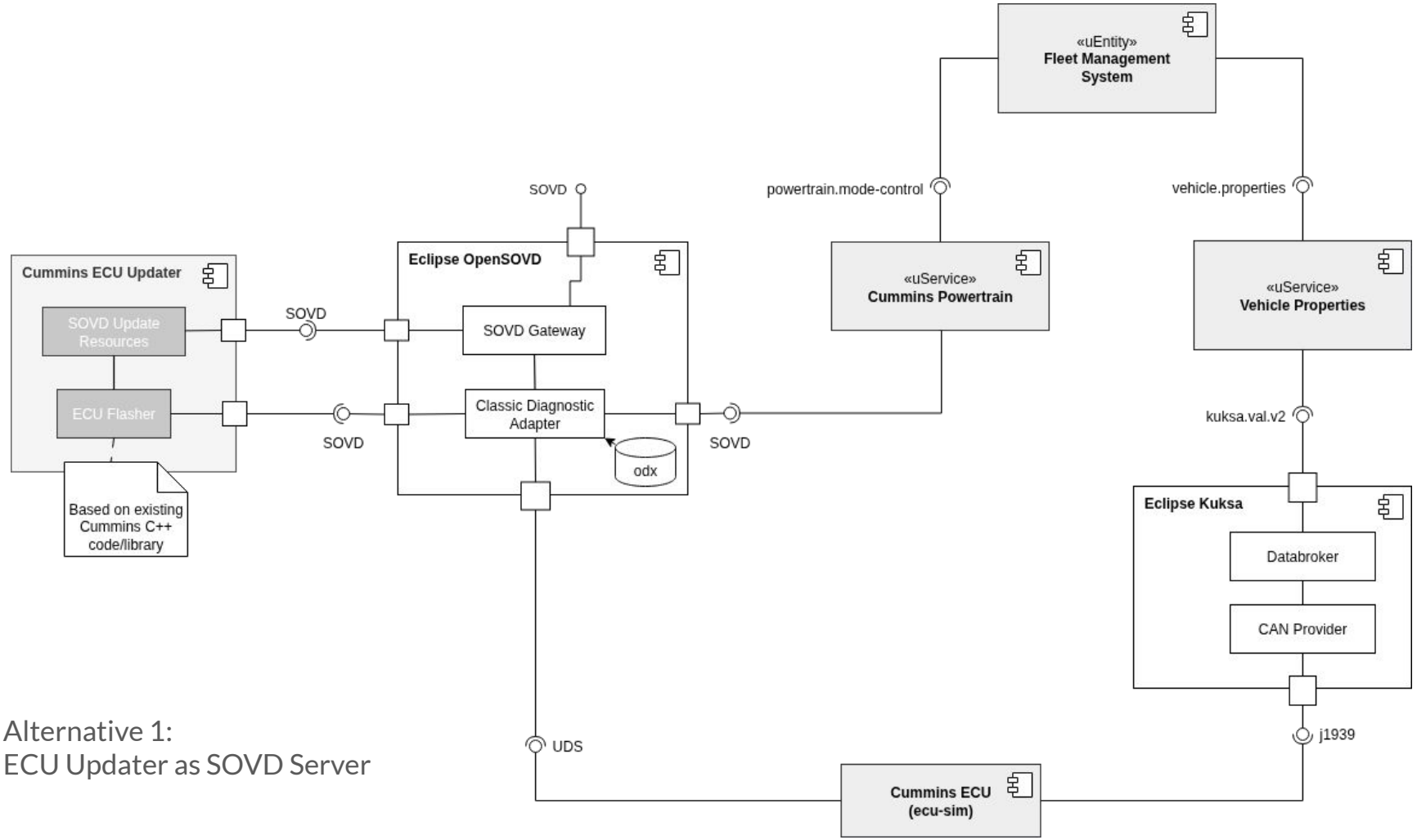
IT

X

auto

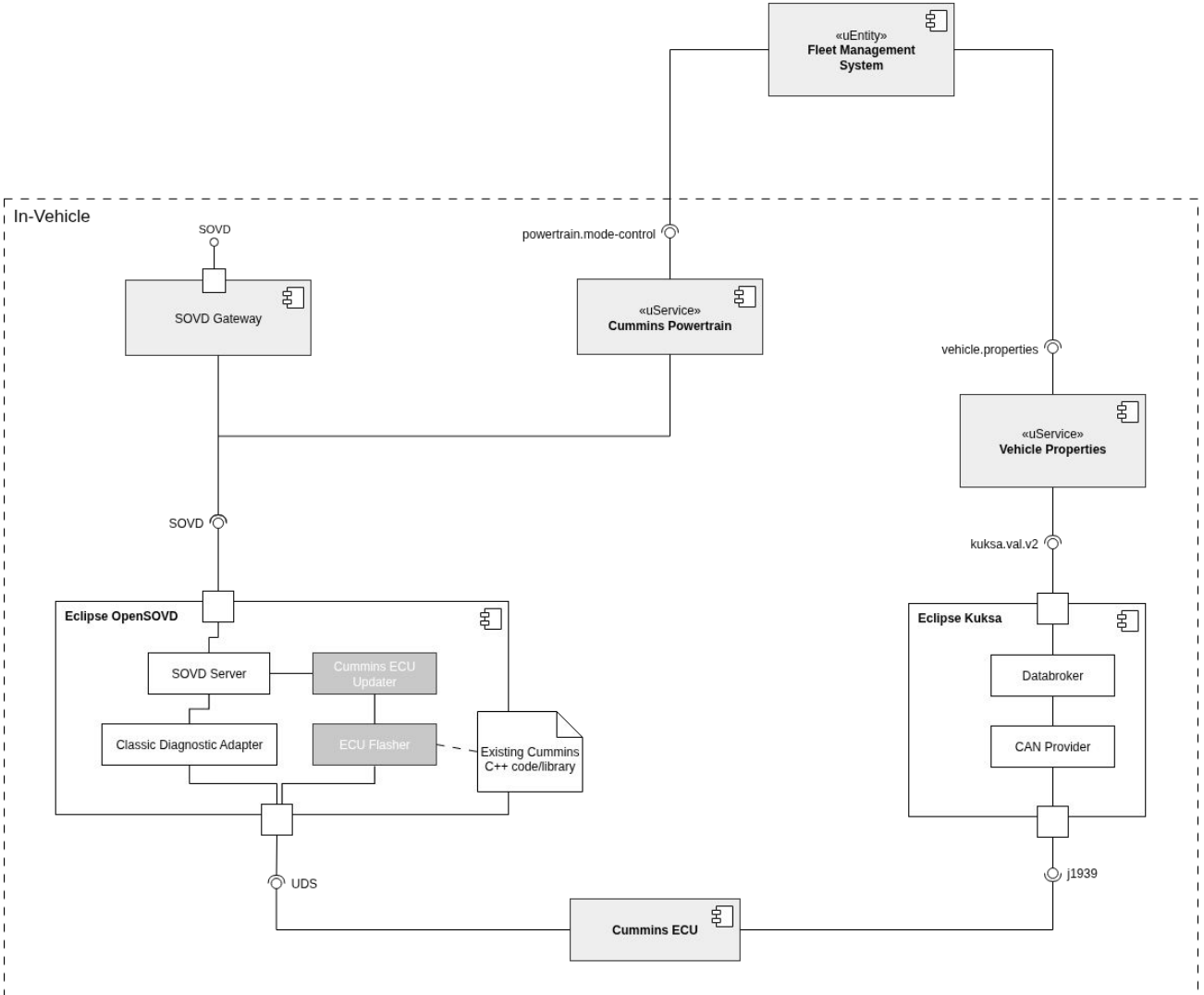
Component Level Overview





Alternative 1:
ECU Updater as SOVD Server

Alternative 2:
ECU Updater as SOVD Plugin



Demo