Vehicle Signal Specification

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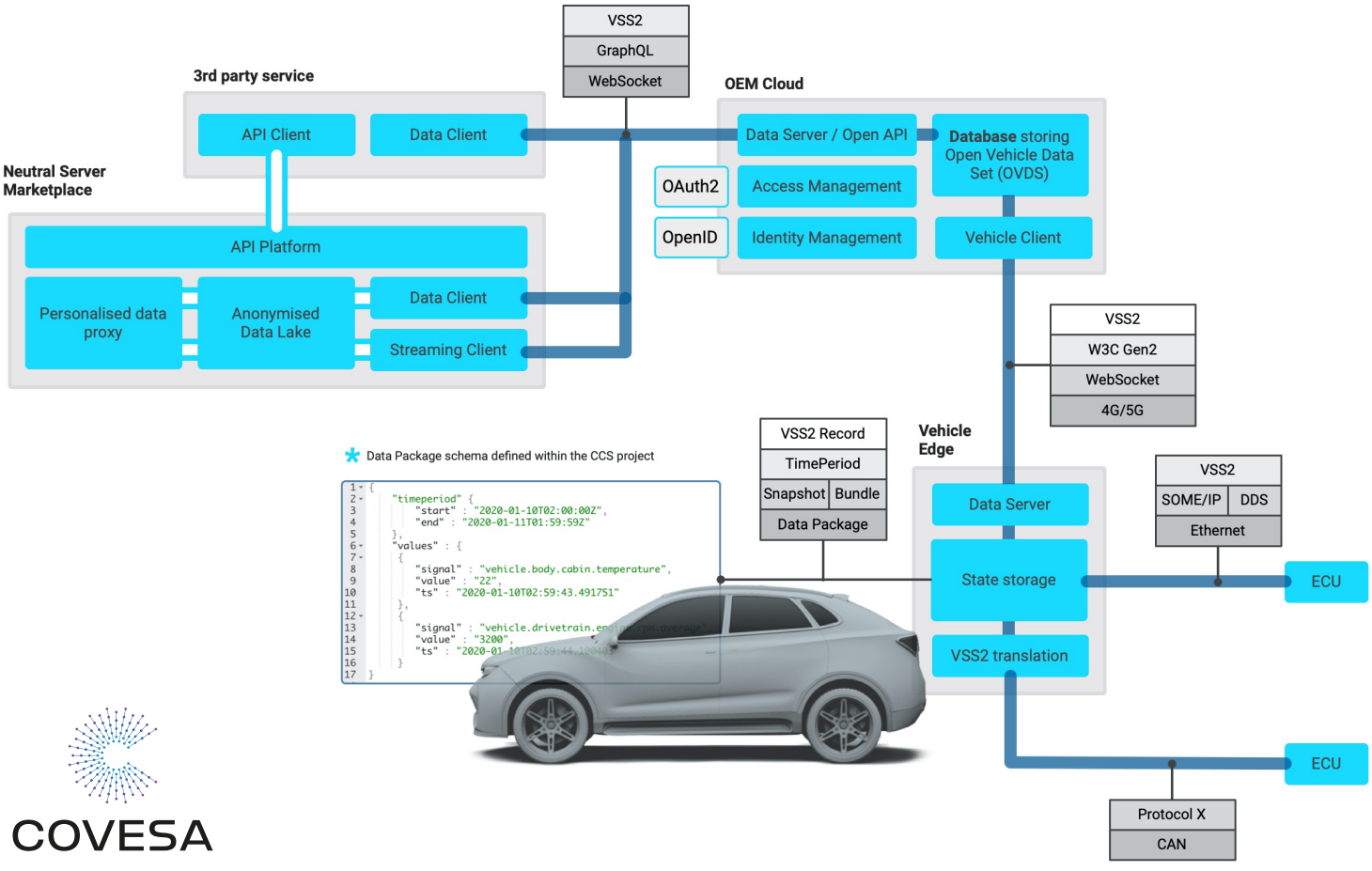
Analysts estimate there are 100 million connected vehicles on the road worldwide today, with an expected 400 million by 2025. With each car capable of generating up an estimated 25 gigabytes of data a day, the future is here. Data standards are imperative to efficiently reduce integration costs and complexity allowing focus on business value.

COVESA's Vehicle Signal Specification (VSS) is a common approach for describing vehicle data. It is a widely adopted, developer friendly, extensible data model and catalog with industry supported tooling. VSS provides a common understanding of vehicle data across the value chain of the connected vehicle. This improves interoperability and integration which ultimately saves time and cost allowing companies to focus on business value creation and differentiating solutions.

VSS is an industry-relevant data standard developed as part of the Connected Vehicle Interface Initiative (CVII), a collaboration between COVESA and W3C which has become a global OEM-led dialog on joint development and adoption of common vehicle data models, access protocols and standard interfaces between vehicle and cloud.



COVESA

Why VSS?

According to industry reports, today's connected vehicles have three or more networks with 70-100 controllers and 50-70 sensors producing over 3,000 individual data elements for operating, conveying state of, or otherwise providing information about a vehicle. An average vehicle generates 25GB of data a day and is capable of transmitting and receiving data to and from the cloud at high speeds by powerful edge computing devices over 5G or LTE connectivity.

Similar to prior, ubiquitous, enabling technologies, like GPS, VSS holds much promise for the creation of new business value and models. However, most of this data currently lives and operates in organizational silos and it does not conform to a common, adopted standard. Once the data crosses organizational boundaries, complex integration and interoperability challenges arise due to lack of common definition and understanding of the data. This costs an incredible amount of time and money, degrades quality and limits integration of connected vehicles in adjacent industries.

To reduce costs, enable scale, and realize new, compelling features, services and business models, these silos must be torn down and replaced with open standards that enable the industry to collaborate more easily and exchange data more efficiently. This will lead to shared understanding of the data across the connected vehicle value chain and enable new business opportunities.

Key Advantages

Enables Scalability

- Vertical integration and scaling into the cloud
- Collaboration and interchange of software & tooling
- Eases data aggregation and cleaning
- Faster large-scale analytics
- Application and code reuse

Faster Time to Market

- Faster product iteration
- Highly portable solutions
- Ease test and evaluation of new software
- Reduce vendor lock-in
- Enables on-demand real-time consumer personalization

Support Future Business

- Open-source collaboration leads to partnerships
- Big tech and cloud providers create new opportunities
- Increased access to data lead to innovation

Innovation

- Concepts and ideas driven by merit
- Increased developer and entrepreneur access
- Enables focus from different industries
- Facilitates exploration to support downstream adoption for commercial deployment

Why COVESA?

COVESA is a mature, open, collaborative and impactful technology alliance focused on accelerating the full potential of connected vehicles. The work of COVESA members is already proving itself in the industry with suppliers, OEM, solution and cloud providers' adoption of VSS. The COVESA community is committed to open technology development in-vehicle, on-edge, and in-cloud:

- Methodologies for modeling and cataloging data and services
- Connected vehicle architectures
- Common platforms, interfaces, and integration
- Tooling Support

Why W3C?

The World Wide Web Consortium (W3C) is an international community where Member organizations, a full-time staff, and the public work together to develop Web standards. W3C's mission is to lead the Web to its full potential. The Consortium achieves its mission by bringing diverse stake-holders together, under a clear and effective consensus-based process to develop high-quality standards based on contributions from the W3C Members, staff, and the community at large.

Learn more about VSS and how to participate in COVESA technical projects on the COVESA Wiki.