Alignment of the eSync Data Pipeline with the Common Vehicle Interface Initiative

A working model for a single secure data pipeline to reach ECUs and smart sensors throughout the connected vehicle
An Open Multi-Company Initiative to Standardize on a Common Platform for Automotive OTA Updates and Data Gathering
Understanding eSync

Compliant Servers, Clients and Agents can come from different sources

**eSync Compliance**

Conforms to:
1. Architectural Spec
2. APIs
3. Feature Spec

Existing Servers, Orchestrators or Devices can become eSync Compliant

**eSync Client**

**eSync Compliant**

**eSync Agent**

**eSync Server**

**Message Broker Interface**
- Decryption, Reconstruction, Device Data Gathering, Device Update Management, Rollback and Status Monitoring
- Device Programming Interface

**Communication Manager**
- In-Vehicle Orchestrator
- Security, Policy, Status, and HMI Services

Compliant Servers, Clients and Agents can come from different sources

**eSync Application**

**Other Cloud Services**
- Certificates and Authentication, Reporting and Notification, Update Processing, Data Gathering, Compression, Encryption
- Device Messaging

**API**

**API**

**API**
eSync Current Deployment Metrics

eSync Scheduled Vehicle Volumes

<table>
<thead>
<tr>
<th>Year</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
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<tr>
<td>2018</td>
<td>1,000,000</td>
</tr>
<tr>
<td>2019</td>
<td>9,100,000</td>
</tr>
<tr>
<td>2020</td>
<td>12,900,000</td>
</tr>
</tbody>
</table>

eSync: Vehicle Volume Ramp

- Germany, 61%
- China, 29%
- Japan, 10%

eSync: Deployment by OEM Geography
Use Case: 3 Million Devices Already Deployed

FAW HS5: 33 Connected Devices per Car
- 7 Technical Domains
- 28 SoCs
- 12 OSs
- 4 Bus/Protocols
- 3 Security Mechanisms

100,000+ Cars Shipped to Date
Ramping to 1 M Cars / 30 M Connected Devices
Integration Task: 12 Months to Start-of-Production
Use Case: Scaling Across Families of Vehicles

- Integration Task: 6 Months to Start-of-Production for the First Model
- 12 Months to Five Models in Production Across 3 Product Families
- **CX74 series**: 10 Devices
- **V34 series**: 16 Devices
- **CX75 series**: 23 Devices
Building a Data Platform with the eSync Compliant Data Pipeline

- Data Pipeline
- Data Aggregation
- In-Vehicle Components
- Cloud Components

Install:
- Diagnostic Script

Web App

eSync Compliant Server

eSync Compliant Client

TCU / Gateway

ECU

Sensor

Agent

HPC
Building a Data Platform with the eSync Compliant Data Pipeline

Cloud Components

Install: Diagnostic Script

Data Aggregation

Data Service

Local Storage

TCU / Gateway

Data Management

Web App

eSync Compliant Server

Data Service Agent

Agent

Agent

Agent

Sensor

ECU

HPC

In-Vehicle Components

In-vehicle Components

Upload:

Install:

Diagnostic Script
Basis of Collaboration

• Align the Data Gathering Portion of eSync Specifications with CVII Initiative

• Standardization for the Automotive Industry: APIs / Data Model / Services

• Create Demonstrators / Proof-of-Concept Platform(s) for our Members
  
  o eSync Alliance TWG Provides an SDK: Include Standard Data Models