eSync ALLIANCE

Building a Standardized Data Pipeline from the Cloud to All Devices in the Vehicle

The eSync Alliance presents a working model for a single secure data pipeline to reach ECUs and smart sensors throughout the connected vehicle

eSync Alliance Work Groups

Technical Work Group:

Chair: *Steffen Herz, Hella*
Co-Chair: *Shivangee Bapat, AlpsAlpine*

- Compliance/Interop Specifications
- Technical Documentation
- Compliance Testing Program
- Test Tool Development
- Developer's Guide, SDK, Reference Implementation
- Technology Roadmap
- Liaison Technical Activities
- Plugfest Management
- Management of Test Houses
- Liaison Technical Activities

Marketing Work Group:

Chair: *Mark Singer, Excelfore*
Co-Chair: *Anja-Maria Hastenrath, EmbeddedPR*

- MarCom:
  - Public Relations
  - Website, Social Media
  - Logos, Trademarks, Usage and Style guides
  - Whitepapers, Brochures and Other Collateral
  - Tradeshows, Demos and Events
  - Management of MarCom Agencies
- Management of Logo Compliance Program
- Member Recruitment
- Liaison Marketing Activities
- Market Requirement Documents:
  - Compliance/Interop
  - Test Tools, SDK, Reference System
  - Demo System
  - Feature/Technical Extension and Roadmap

Challenges of Automotive OTA

Many Technology Providers

ALPSALPINE, MAGNA, ZF, SiriusXM Satellite Radio, LG Electronics, TomTom, Google, Visteon, Aptiv, Yazaki, Schaeffler, Garmin, Velodyne, molex, HELLA, HARMAN A Samsung Company, GENIVI, faurecia clarion Electronics, FICOSA, BOSCH, Panasonic, Green Hills Software, Pioneer, Continental, DENSO

First Generation Automotive OTA Focused on IVI

Most Software Recall Costs are Powertrain/Safety Components

Great Variety of Devices, Processing Resources, OSs, Networks

Too Many Proprietary OTA Approaches – Complexity and Costs are Exploding

Multiple Large Automakers

Ford, Volkswagen, HYUNDAI, FAW, TOYOTA, PEUGEOT, RENAULT, SUZUKI, GM, NISSAN, Mercedes-Benz, BMW, FCA FIAT CHRYSLER AUTOMOBILES

eSync ALLIANCE

An Open Multi-Company Initiative to Standardize on a Common Platform for Automotive OTA Updates and Data Gathering

ALPSALPINE DSA excelfore faurecia clarion ELECTRONICS HELLA JOYNEXT 均联智行 mobica molex R SYSTEMS ZF

OEMs

eSync COMPLIANT Server

Cloud Services

eSync COMPLIANT Client

eSync COMPLIANT Agent

eSync COMPLIANT Agent

eSync COMPLIANT Agent

Tier 1s

Tier 2s

- Specifications and Compliance
- Plugfests
- Logo Administration
- Industry Education
- Liaison with Other Organizations

Understanding eSync

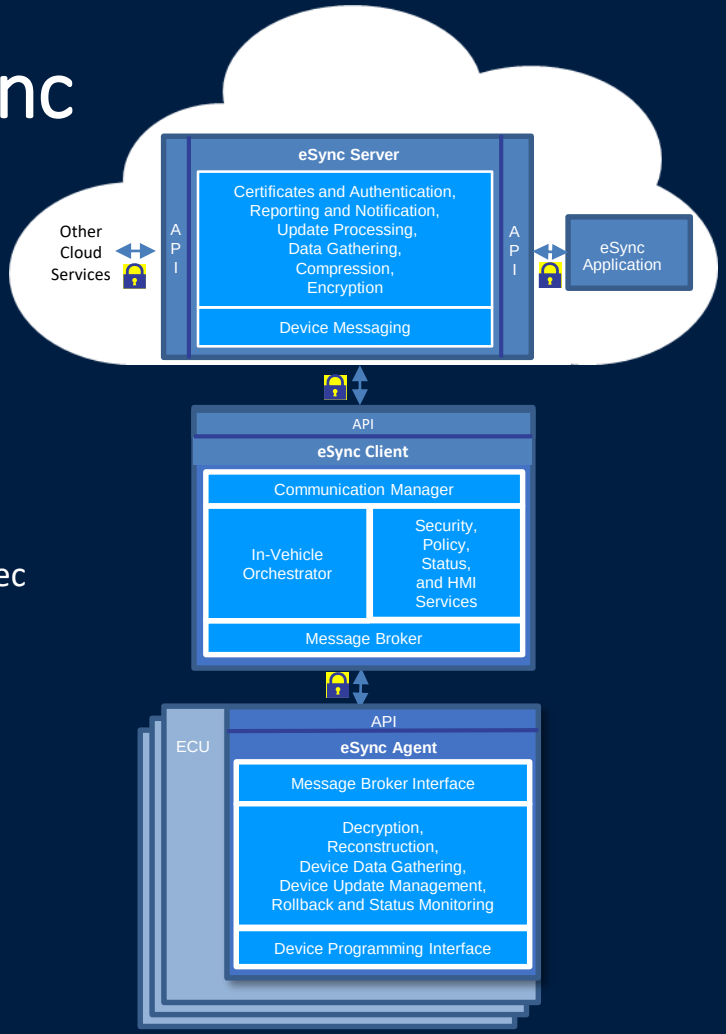
Compliant Servers, Clients and Agents can come from different sources

eSync Compliance

Conforms to:

1. Architectural Spec
2. APIs
3. Feature Spec

Existing Servers, Orchestrators or Devices can become eSync Compliant

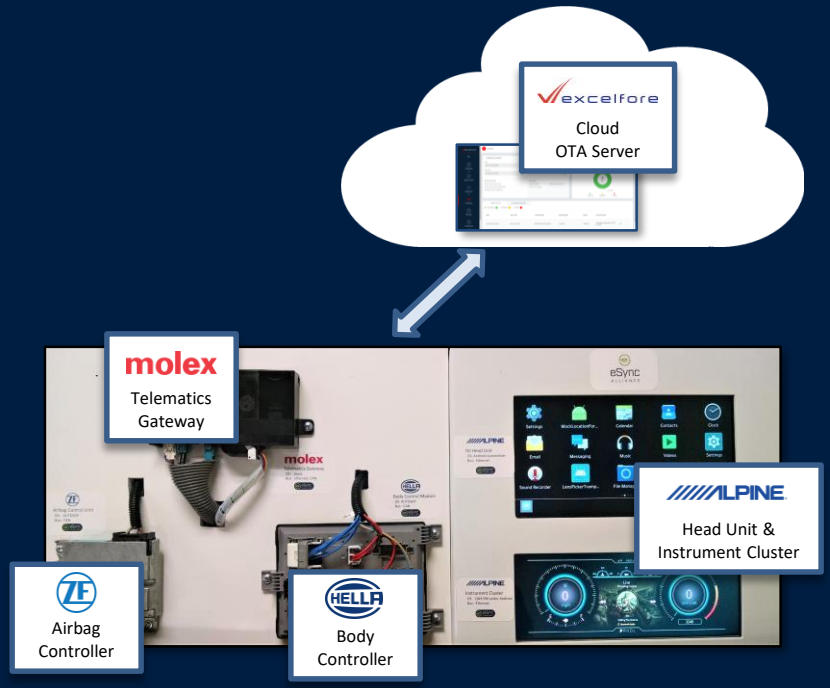


eSync Current Deployment Metrics

eSync Adoption	By end of 2020
Automakers in Production	5
Max Models per Automaker	3
Vehicles Produced	1+ Million
Vehicles under Contract	10 Million

In-Vehicle Complexity	By end of 2020
Max Number of Edge Devices	> 60 Devices
Max Number of Technical Domains	7 Domains
Mix of Operating Systems	12 Operating Systems
Networks / Protocols	4 Networks / Busses

eSync Demonstration at CES 2020 GENIVI Event



Key Items in the Demonstration Platform:

Excelfore Server Software

Molex Telematics Gateway: Linux, on **Cellular**

Alpine Head Unit: Android and **QNX** VMs, on **Ethernet**

ZF Airbag Controller: AUTOSAR CP on fast **CAN**

Hella Body Controller: AUTOSAR CP on slow **CAN**

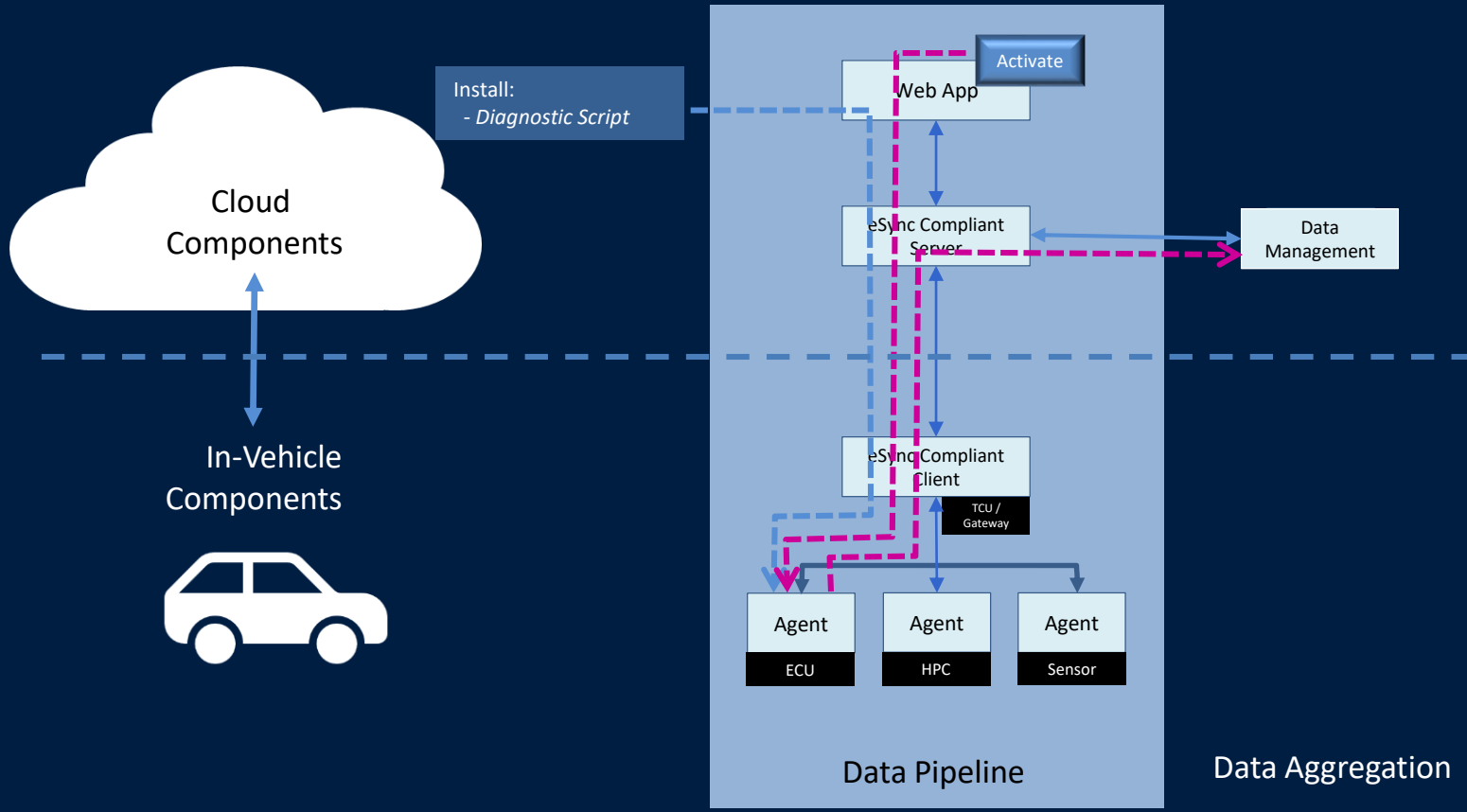
Understanding eSync Data Gathering

Data Gathering Configuration

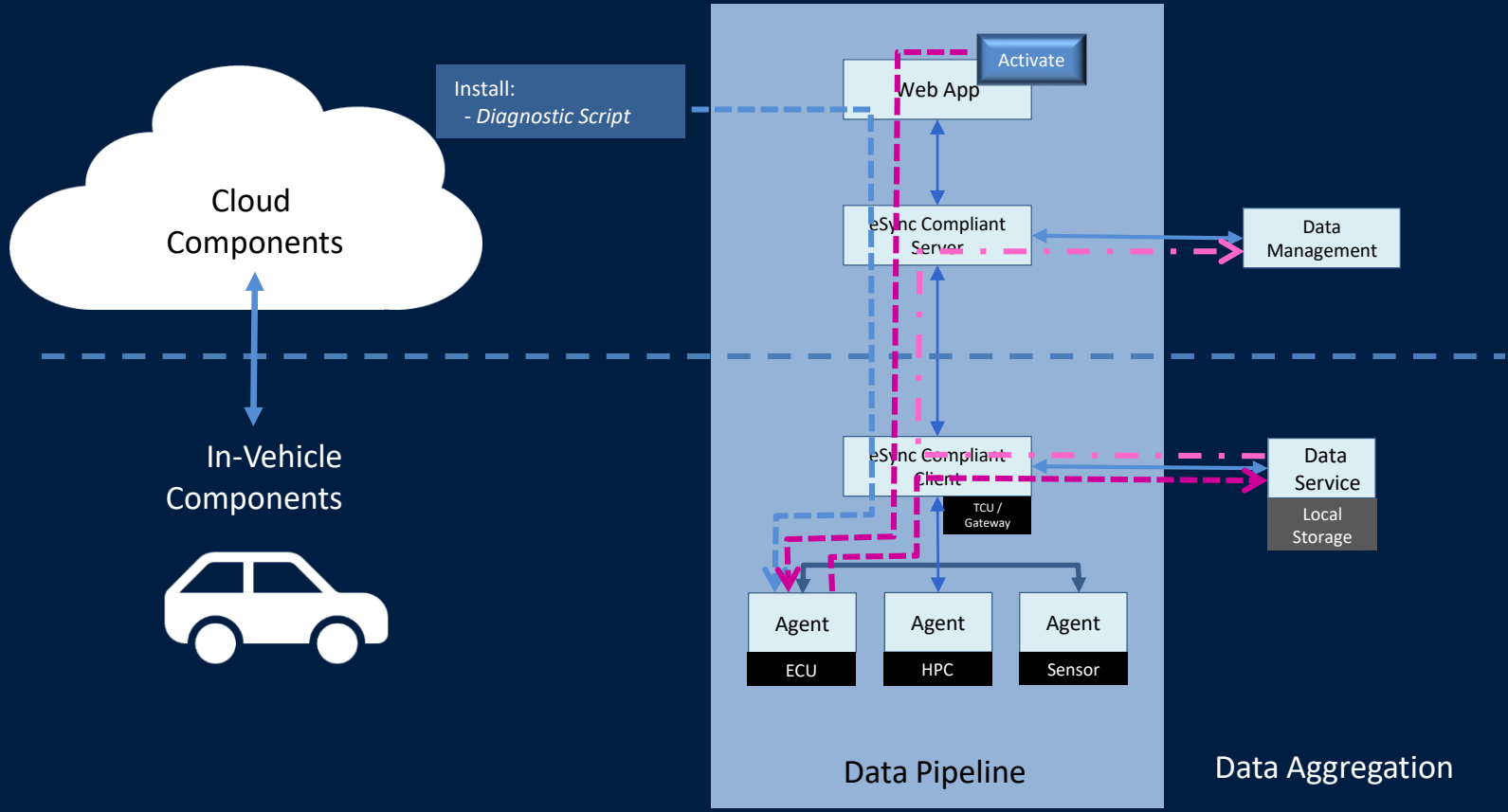
Real Time Data

- Real Time Operating Data
  - Not Just Error Codes
- Configurable Data Gathering

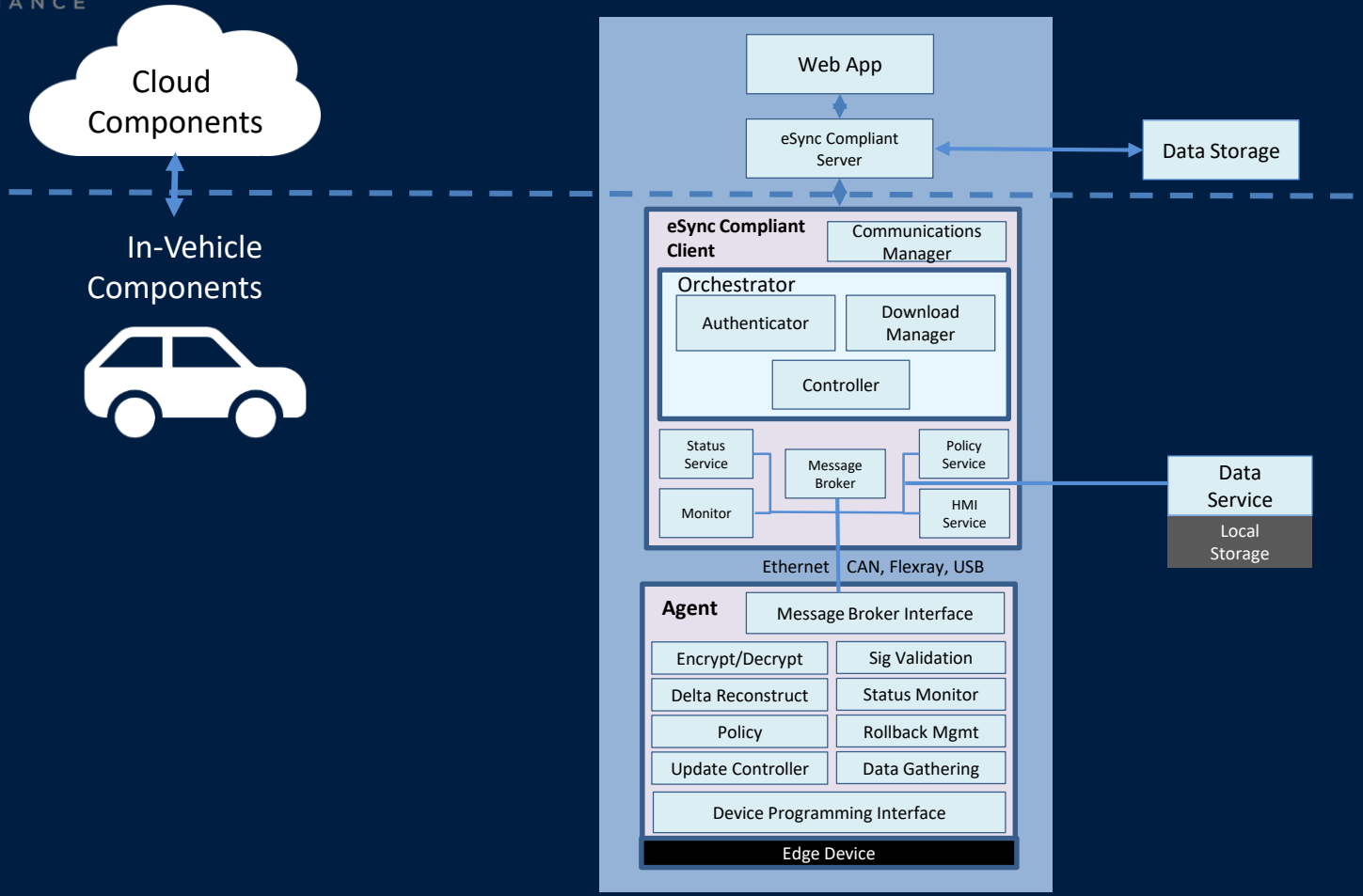
Building a Data Platform with the eSync Compliant Data Pipeline



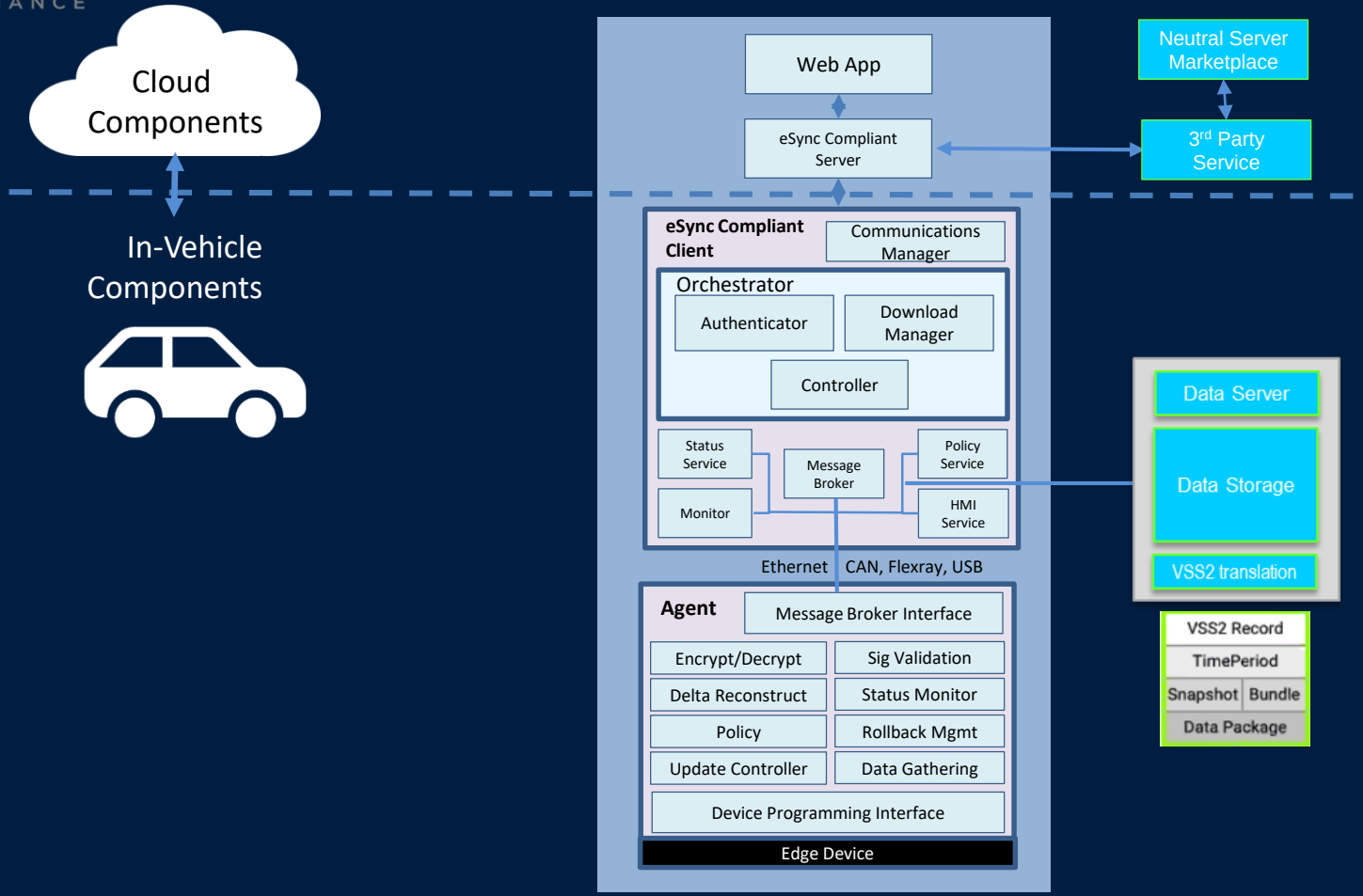
Building a Data Platform with the eSync Compliant Data Pipeline



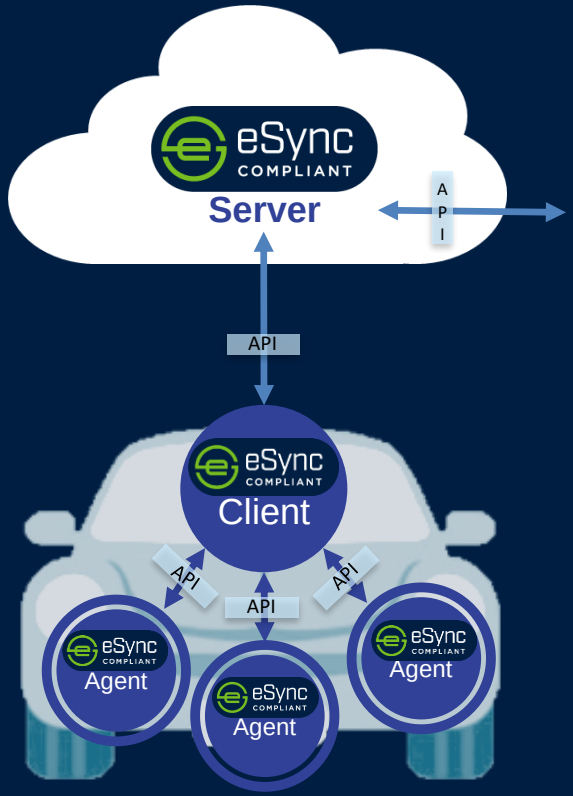
Building a Data Platform with the eSync Compliant Data Pipeline



A Basis for Collaboration with Common Vehicle Interface Initiative



Why Work with eSync Alliance?



eSync Compliant Bi-Directional Data Pipeline	
Technology Advantages	Single Pipeline for OTA Updates and Data Gathering
	Proven to Cross OS and Bus Boundaries
	Proven to Scale to Any Number of Devices in the Car
Timeliness Advantages	The Data Pipeline is Ready – eSync Spec is Practical, Complete, and Proven
	Flexible, Consistent and Re-Usable Across Multiple Automakers and Use Cases
	Tier-1s Already Integrating eSync Agents for their Devices
Liaison Advantages	Focus on Core Purpose while Leveraging an Existing Pipeline
	Contribute to the Evolution of the Pipeline
	Shared Members are Already Participating in Various Parts of the eSync Pipeline

For more information

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