



FIX All on AI
Future Innovation tech eXpo Conference 2025

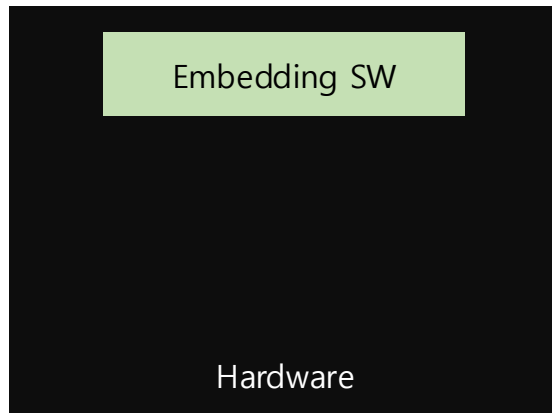
CyberSecurity on SDV

Dr. SangGyoo SIM / AUTOCRYPT

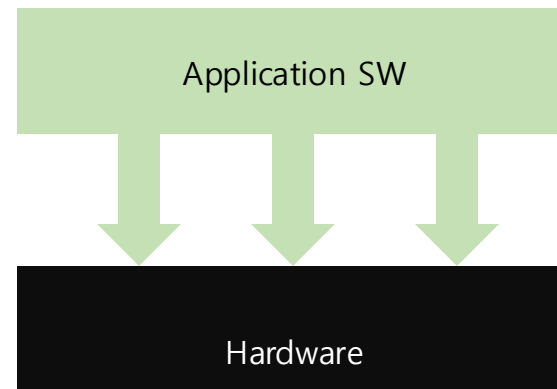




SDV (Software Defined Vehicle)

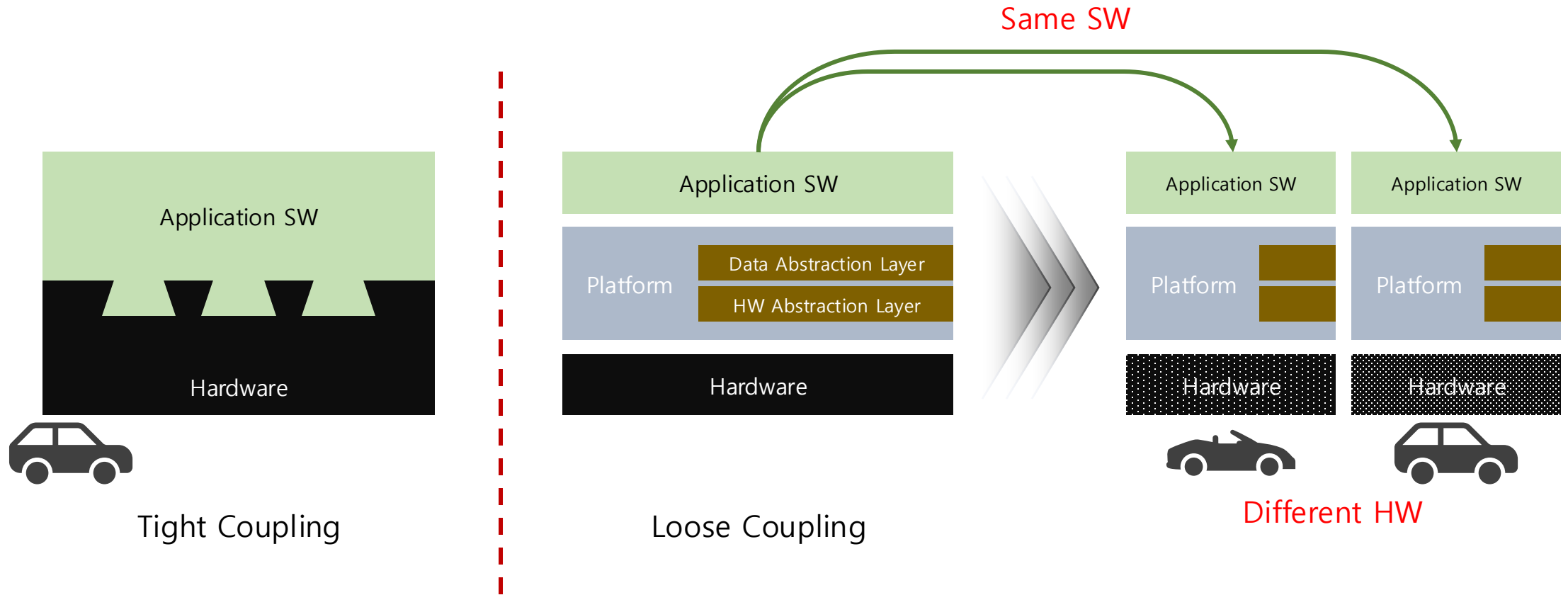


SW is a sub-part of HW.

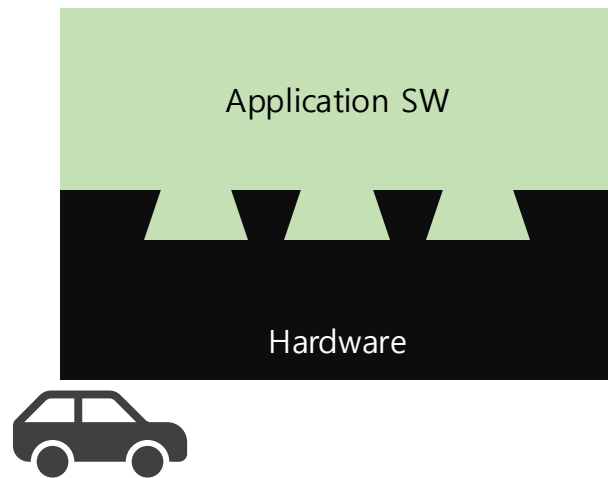


SW is an independent part.

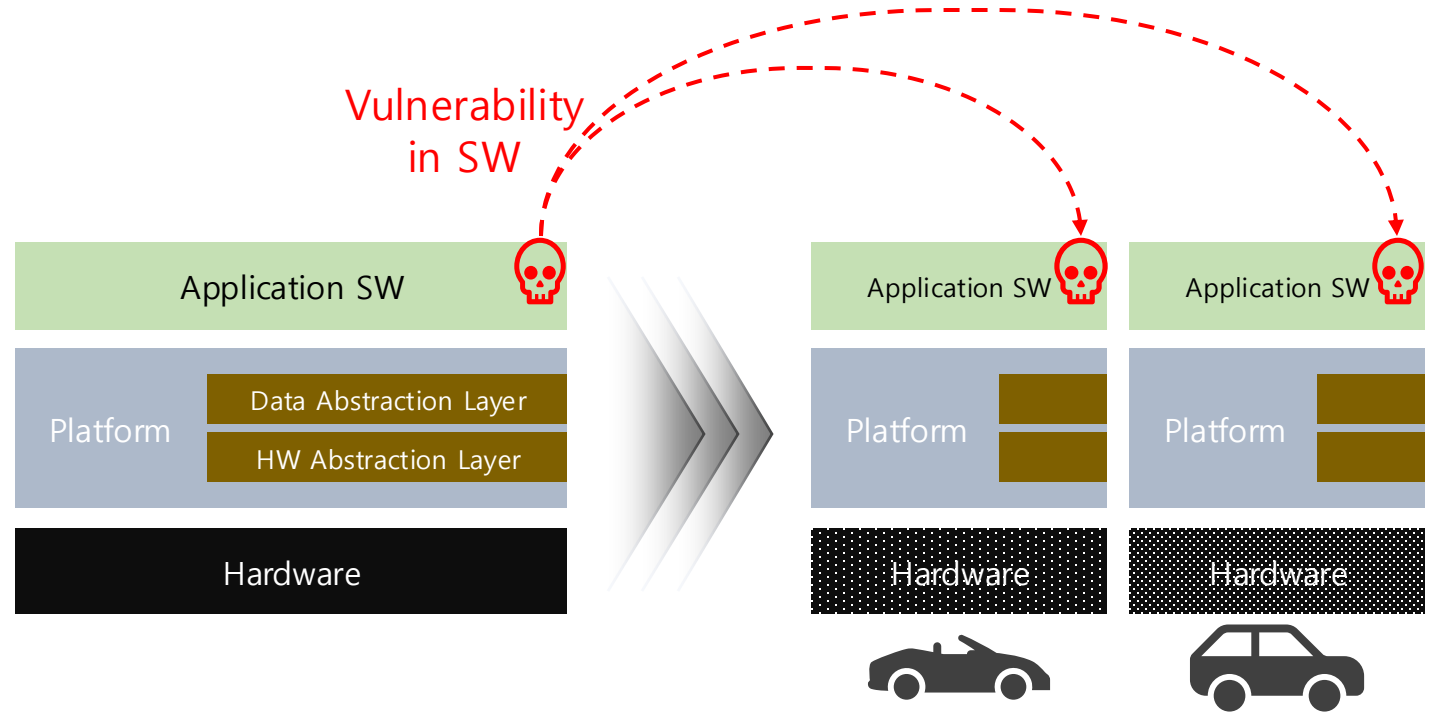
Coupling between HW & SW



Coupling between HW & SW



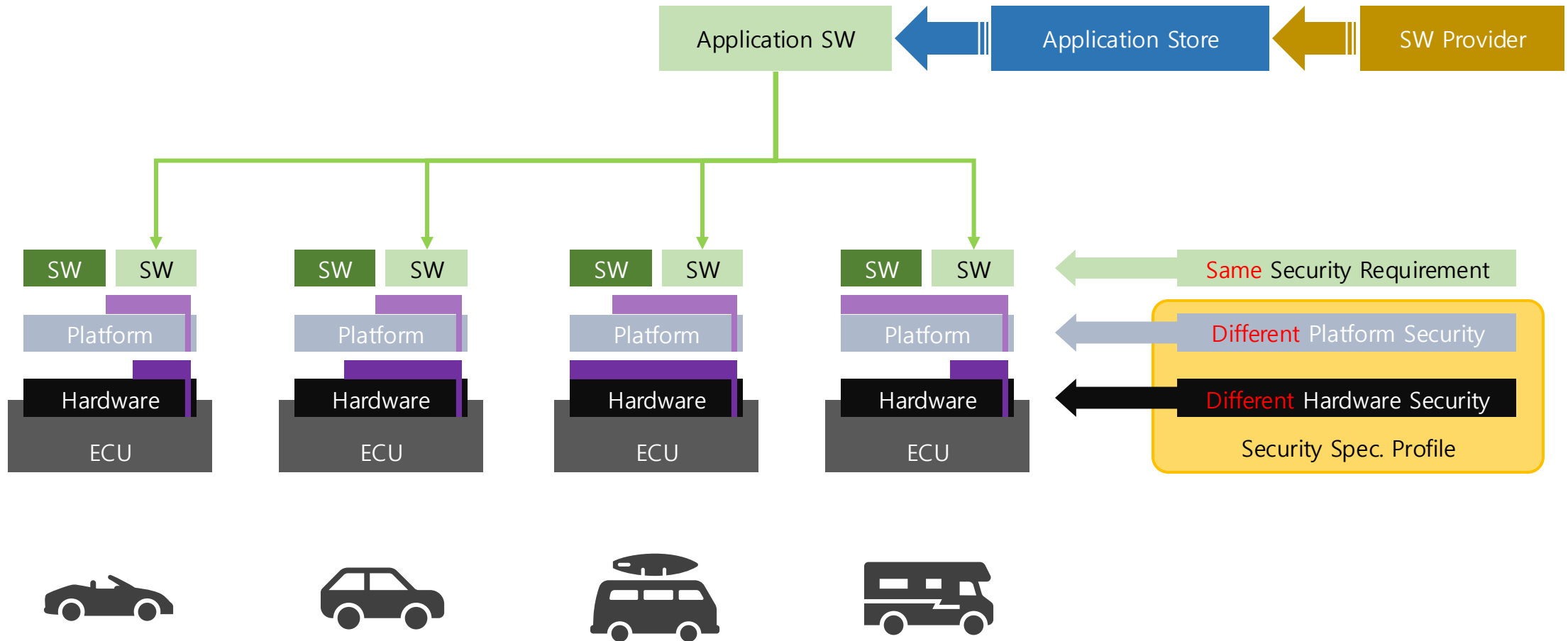
Tight Coupling



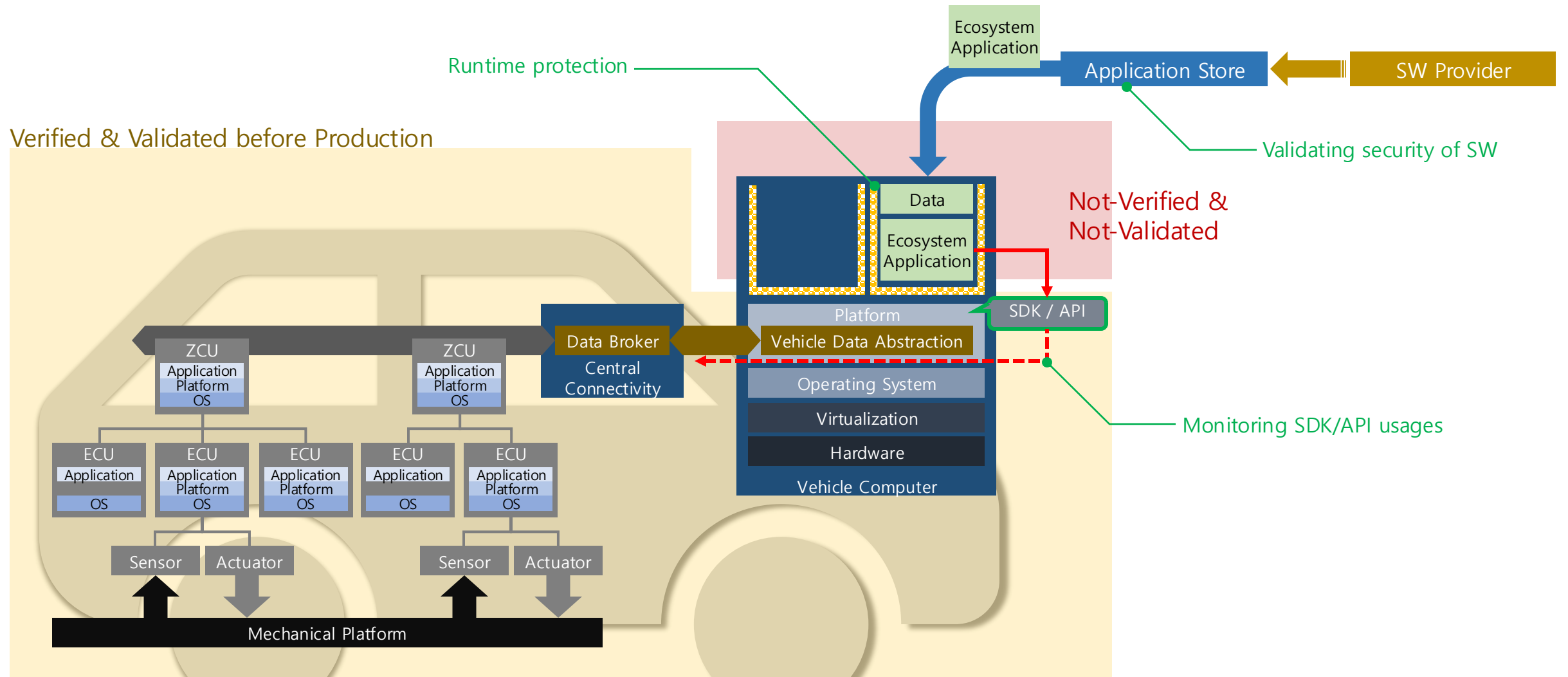
Loose Coupling

Different HW

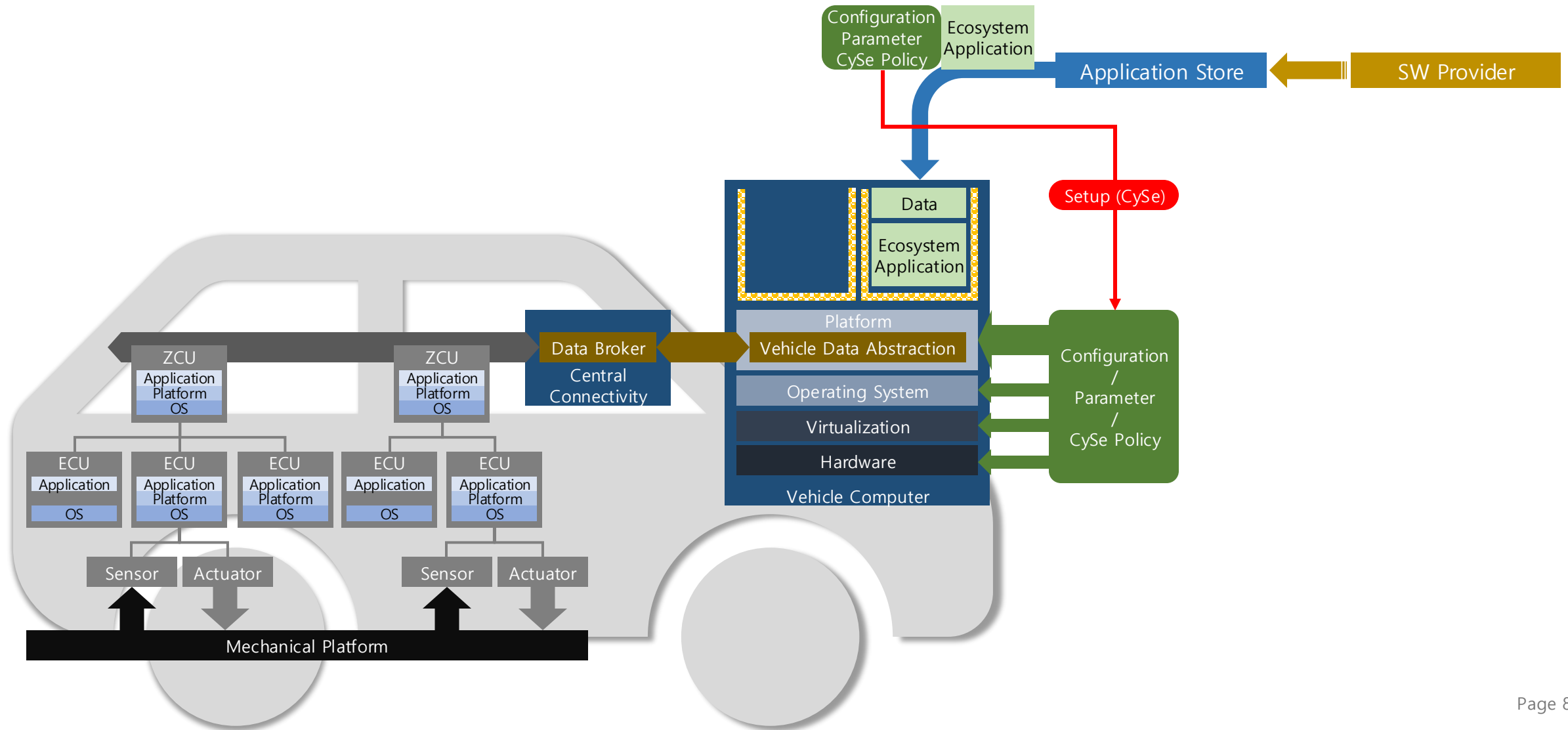
One Software for Different Vehicles



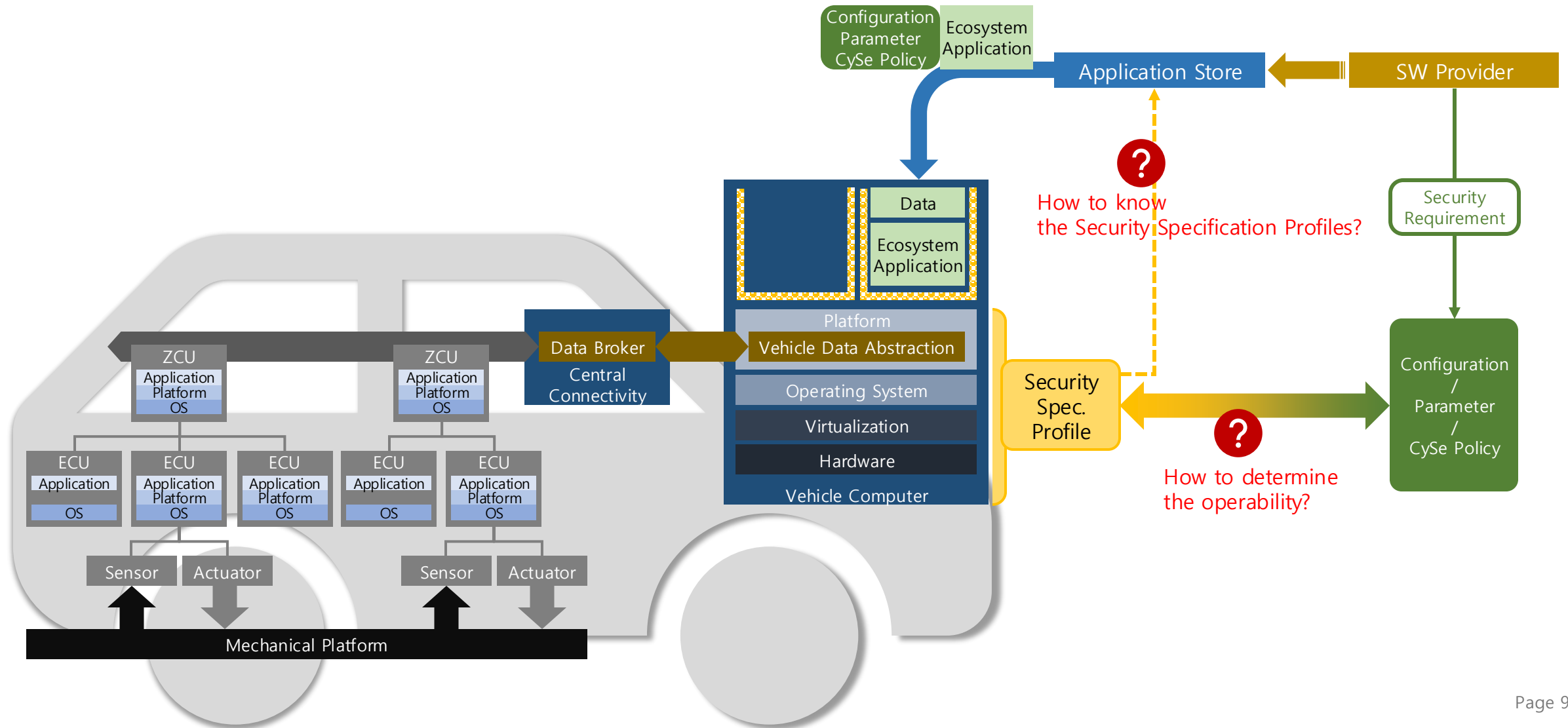
Software Delivery of 3rd party SW



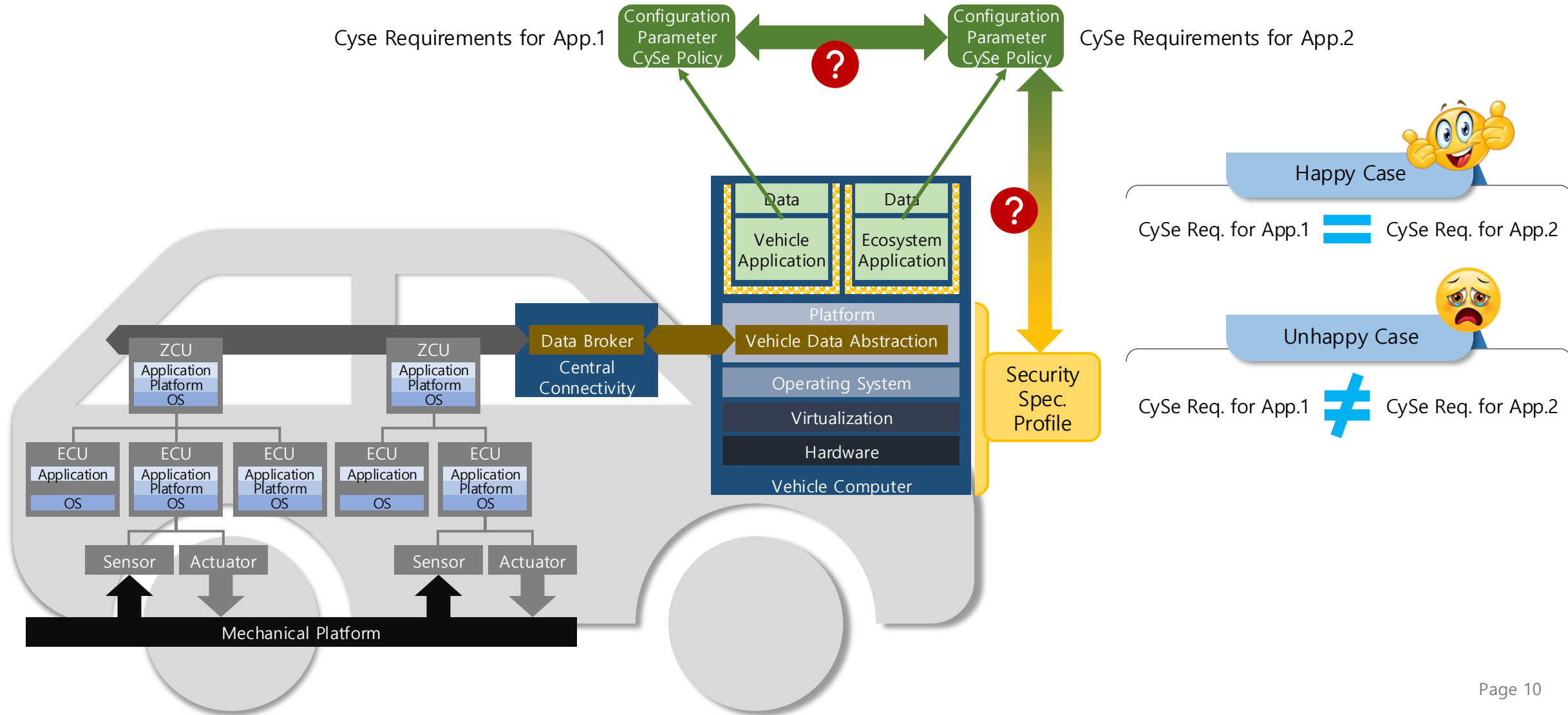
SW Install/Setup



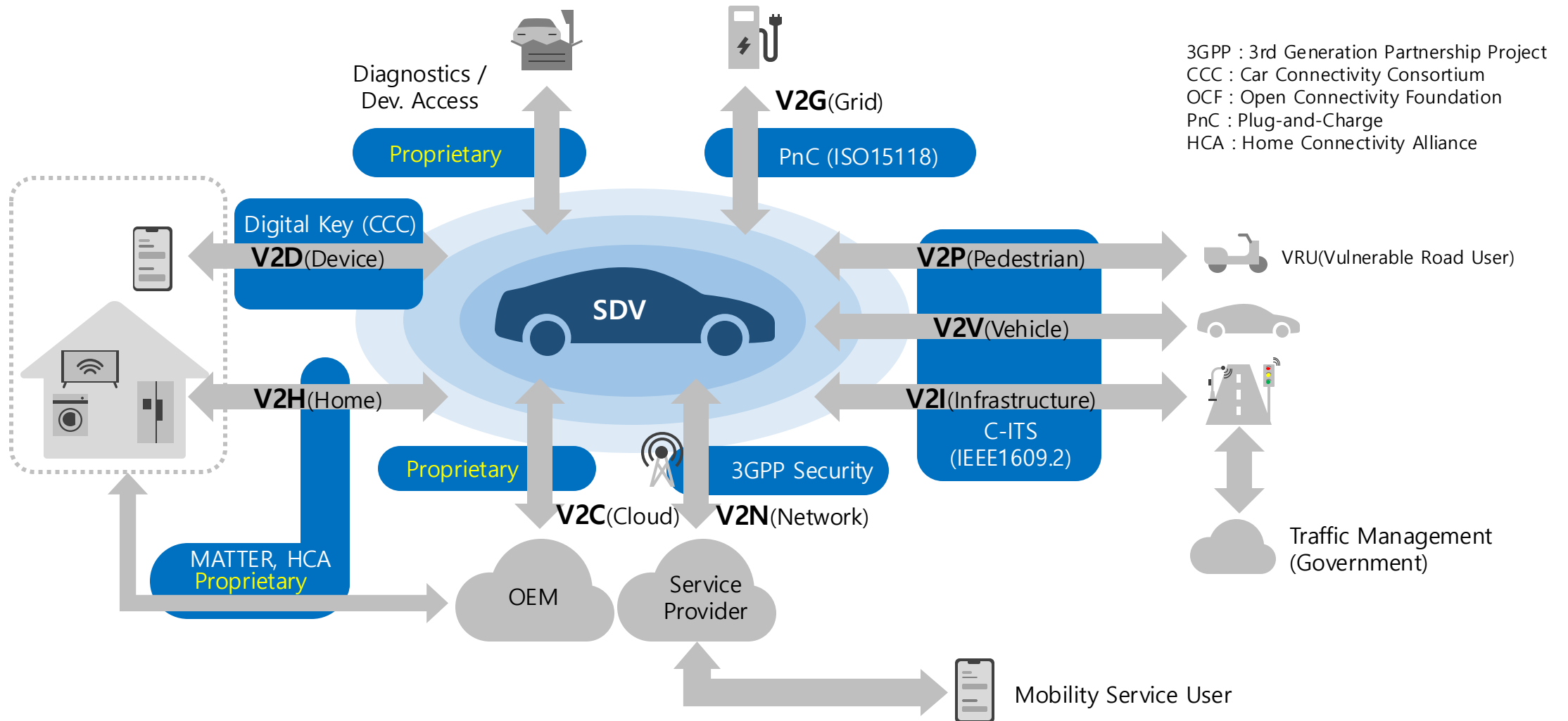
Security Spec. Profile



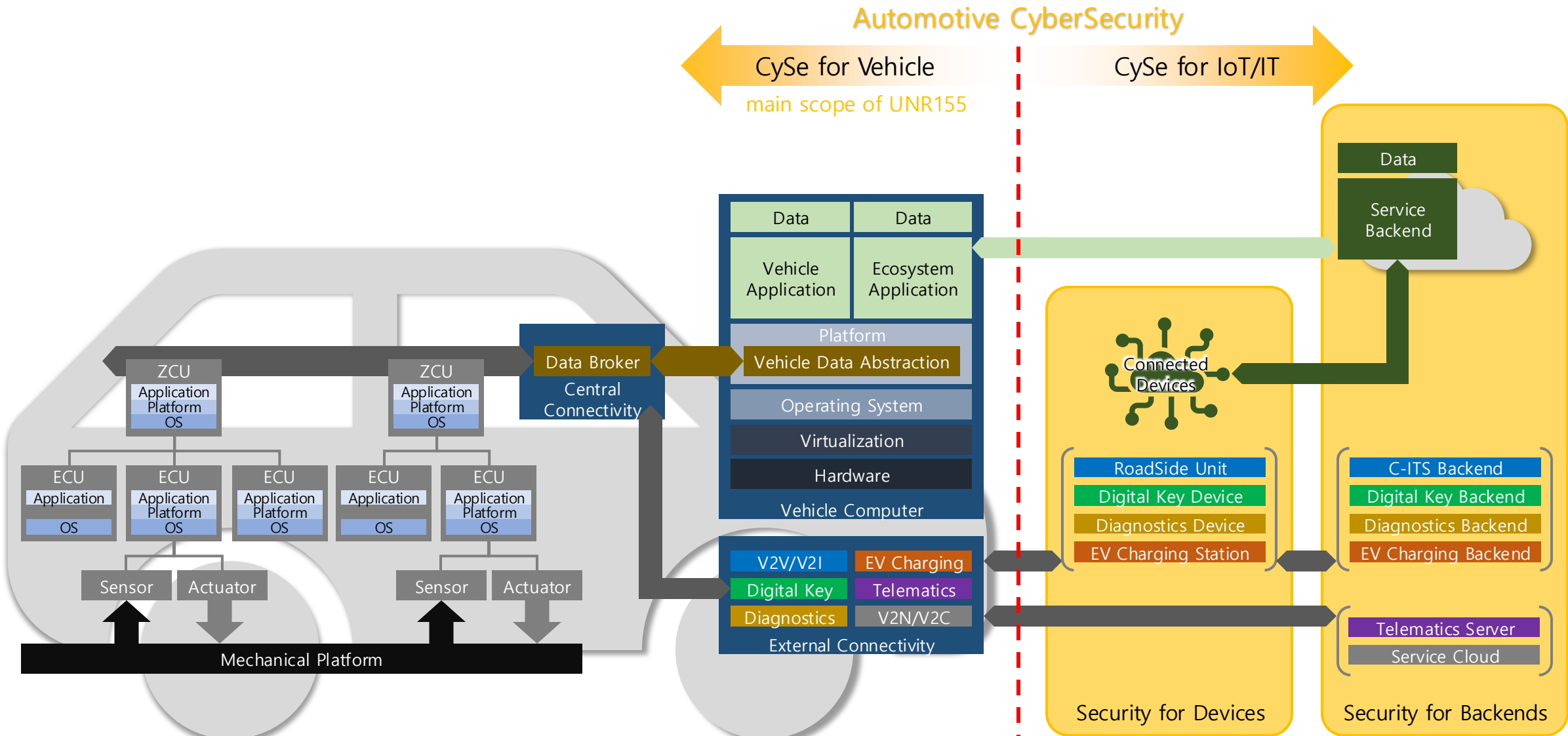
Cybersecurity Requirements



Connectivity of SDV

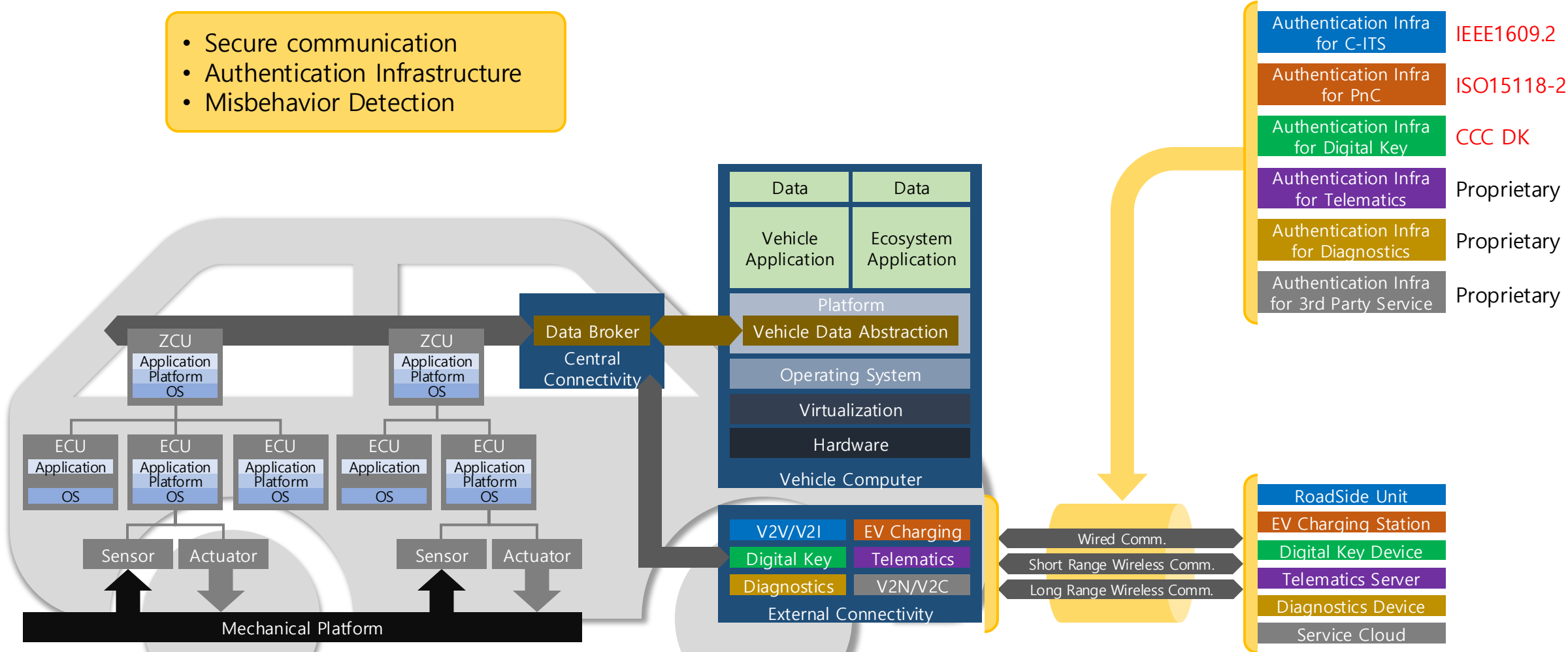


CySe for Vehicle + CySe for IoT/IT



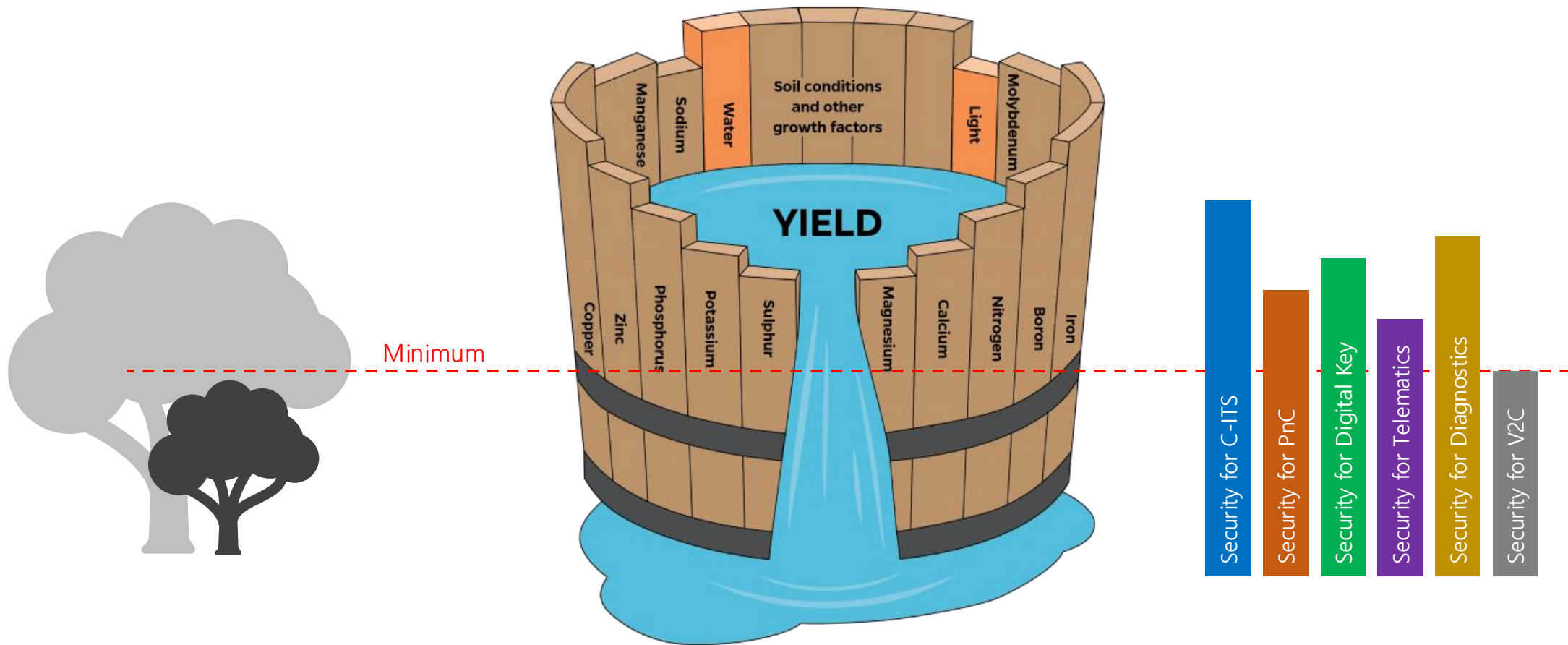
Secure Connection

- Secure communication
- Authentication Infrastructure
- Misbehavior Detection

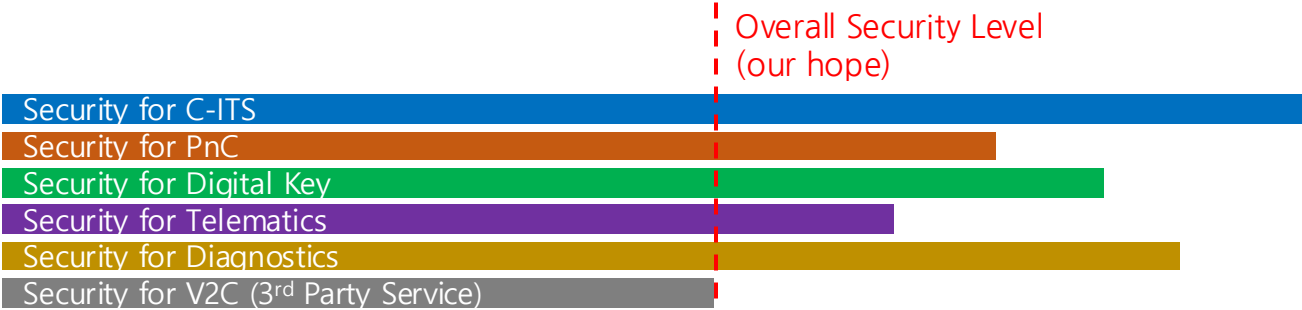


Law of the Minimum

by Carl Sprengel (1840) and by Justus von Liebig



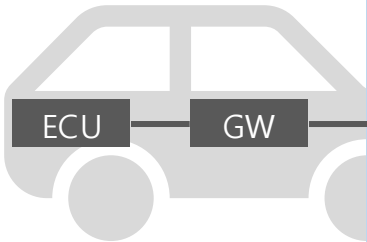
Law of the Minimum



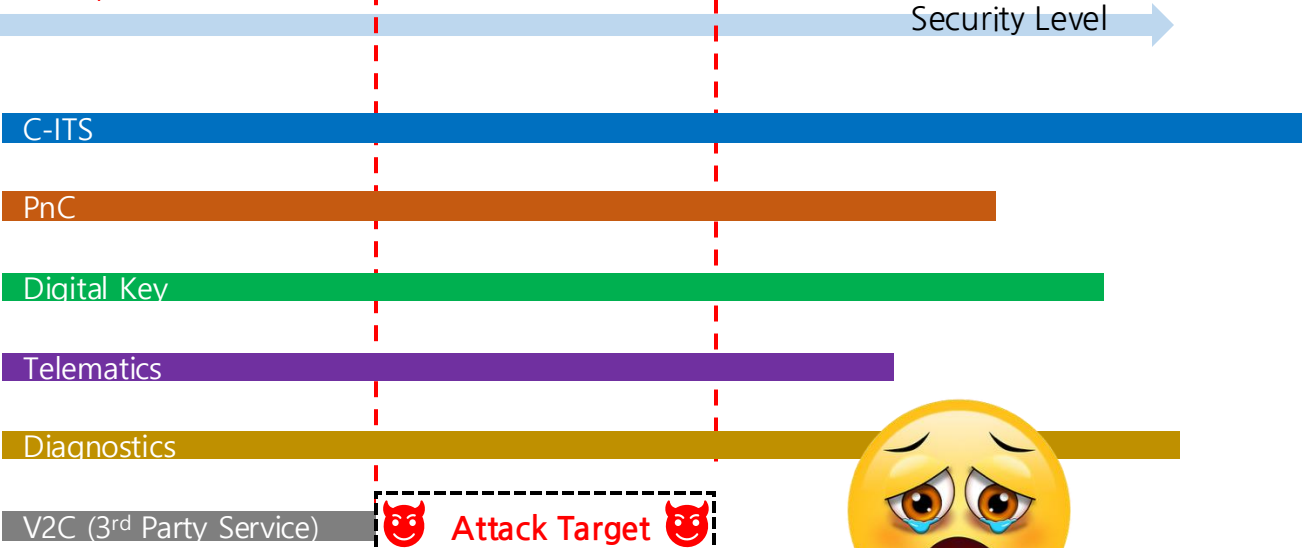
Overall Security Level
(in practice)



Overall Security Level
(our hope)



- NIC
- OBU
- EVCC
- BDC
- TCU
- OBDC
- IVI

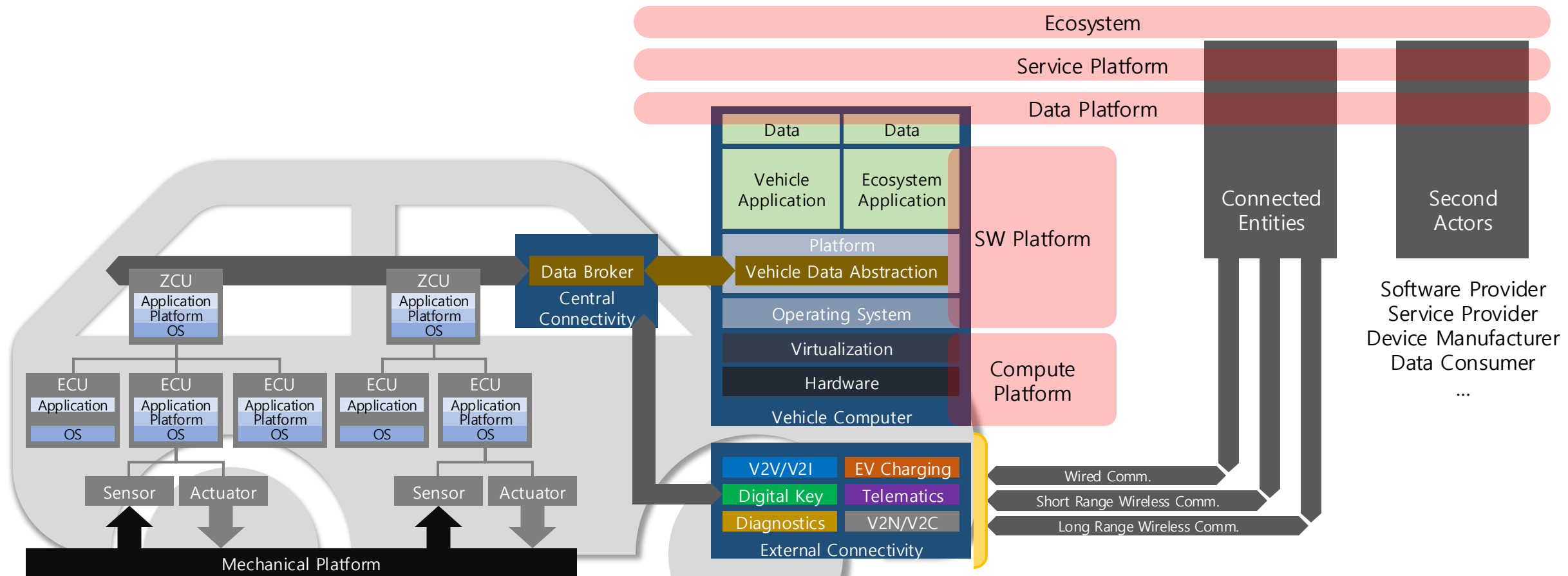


Attack Target

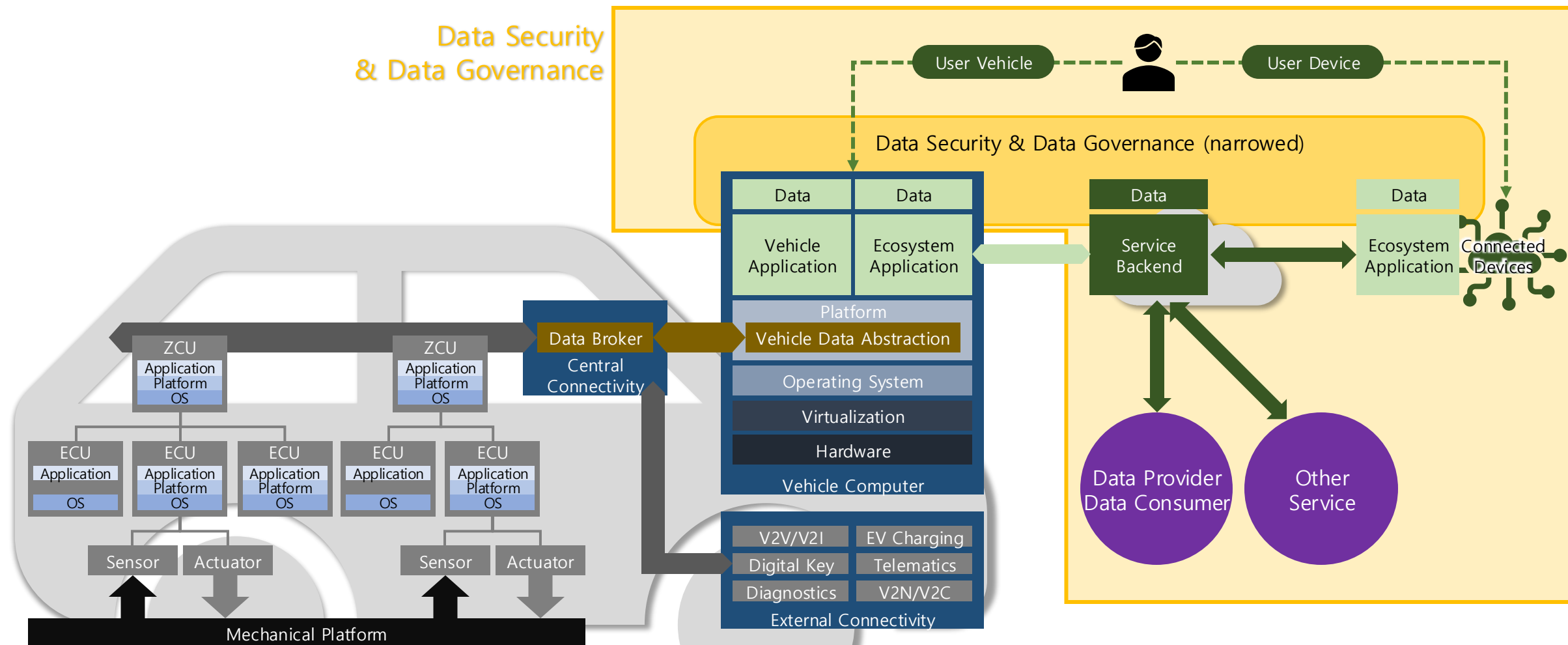


NIC : Network Interface Controller
OBU : OnBoard Unit
EVCC : EV Comm. Controller
BDC : Body Domain Controller
TCU : Telematic Controller Unit
OBDC : OnBoard Diagnostic Controller

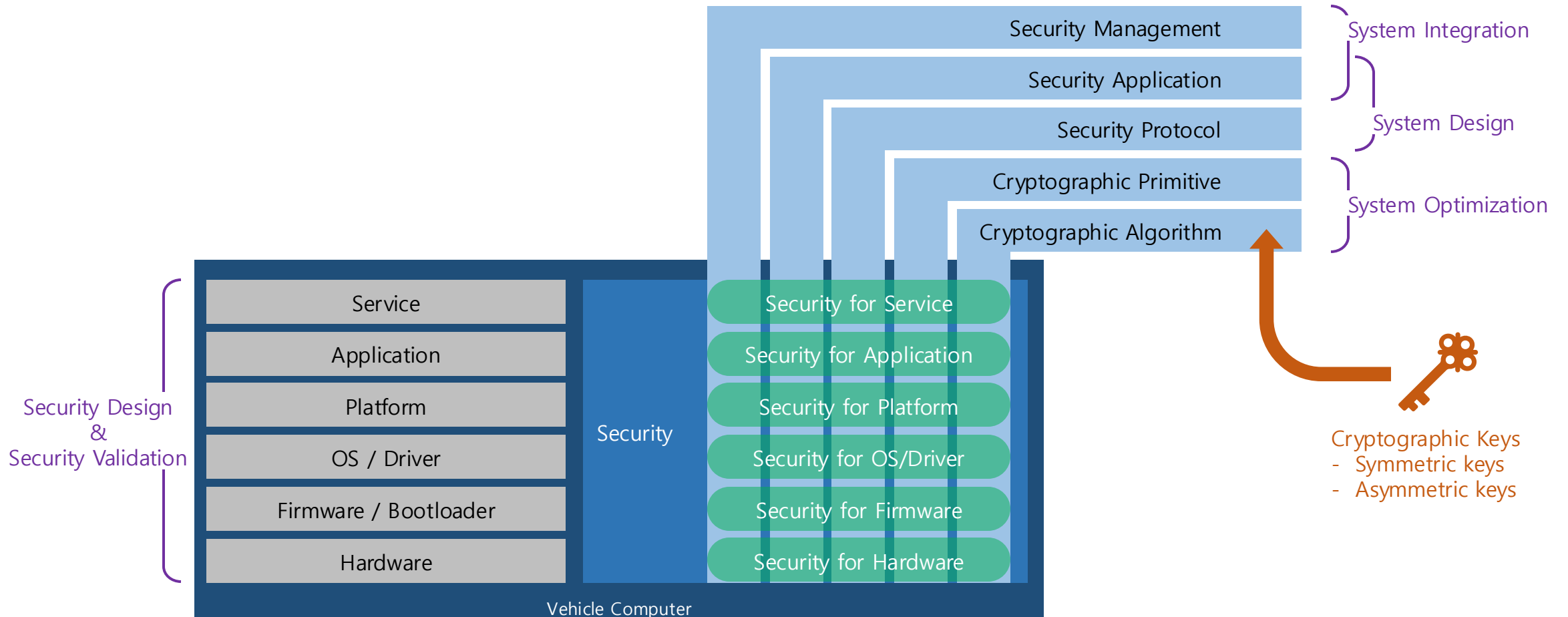
Architectural Layers of SDV



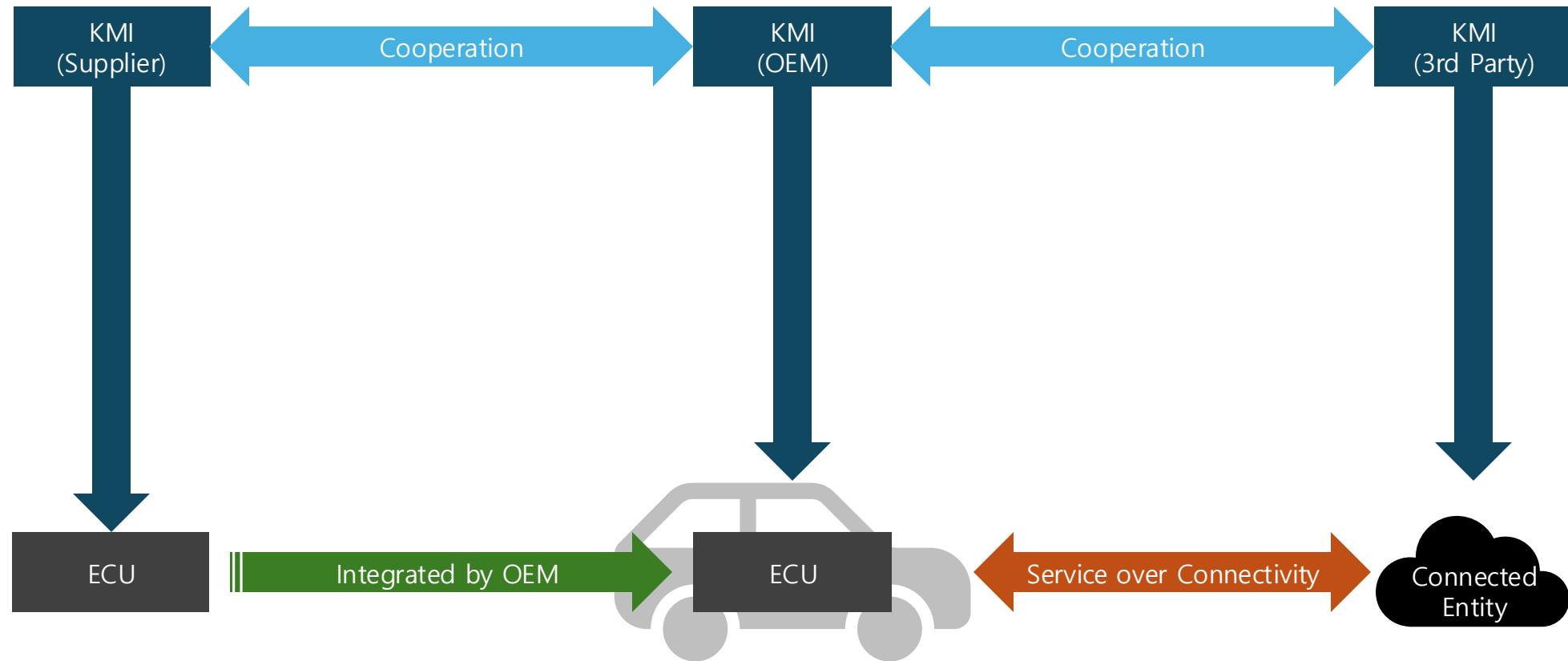
Data Security & Governance



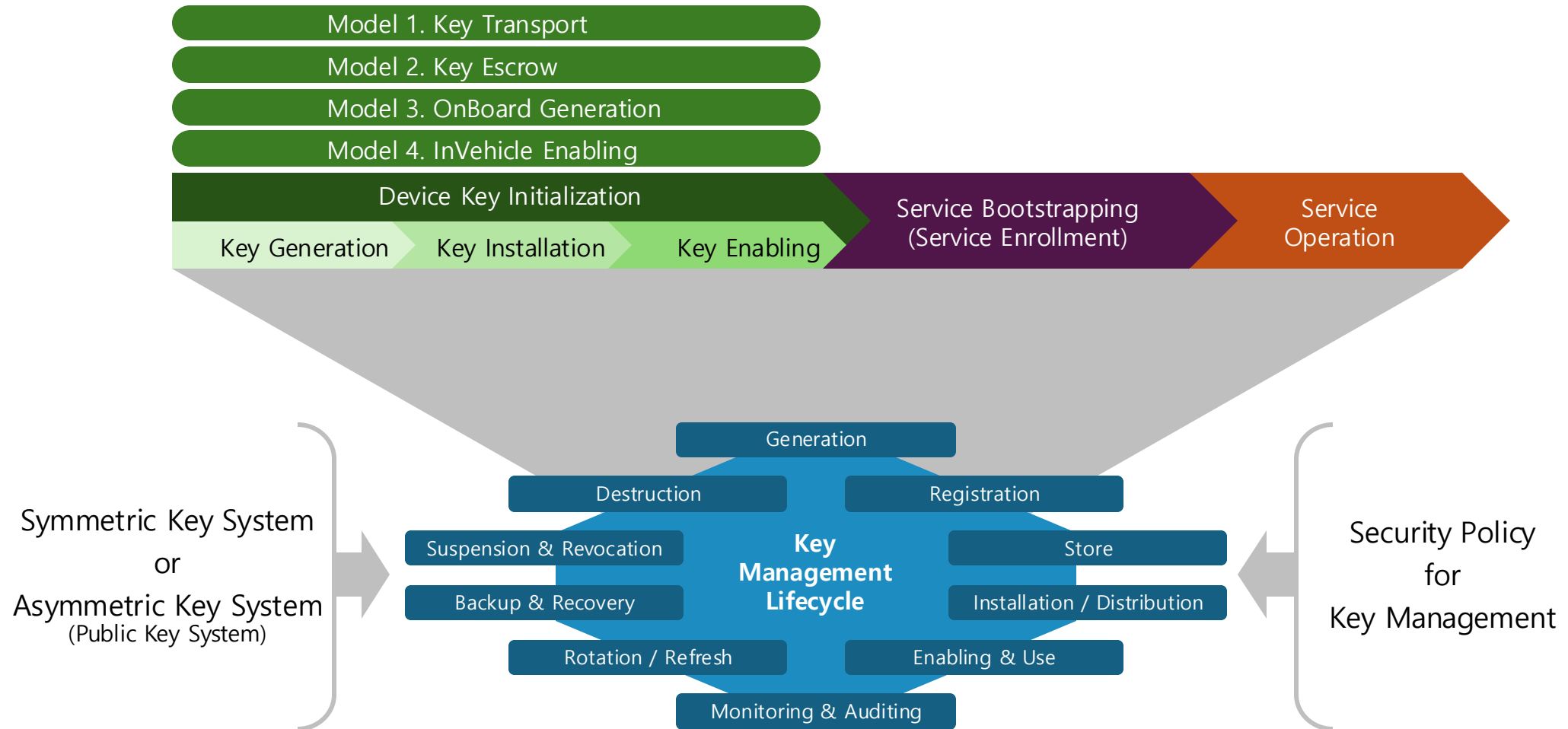
Security, Cryptography & Key



Key Management Infrastructure

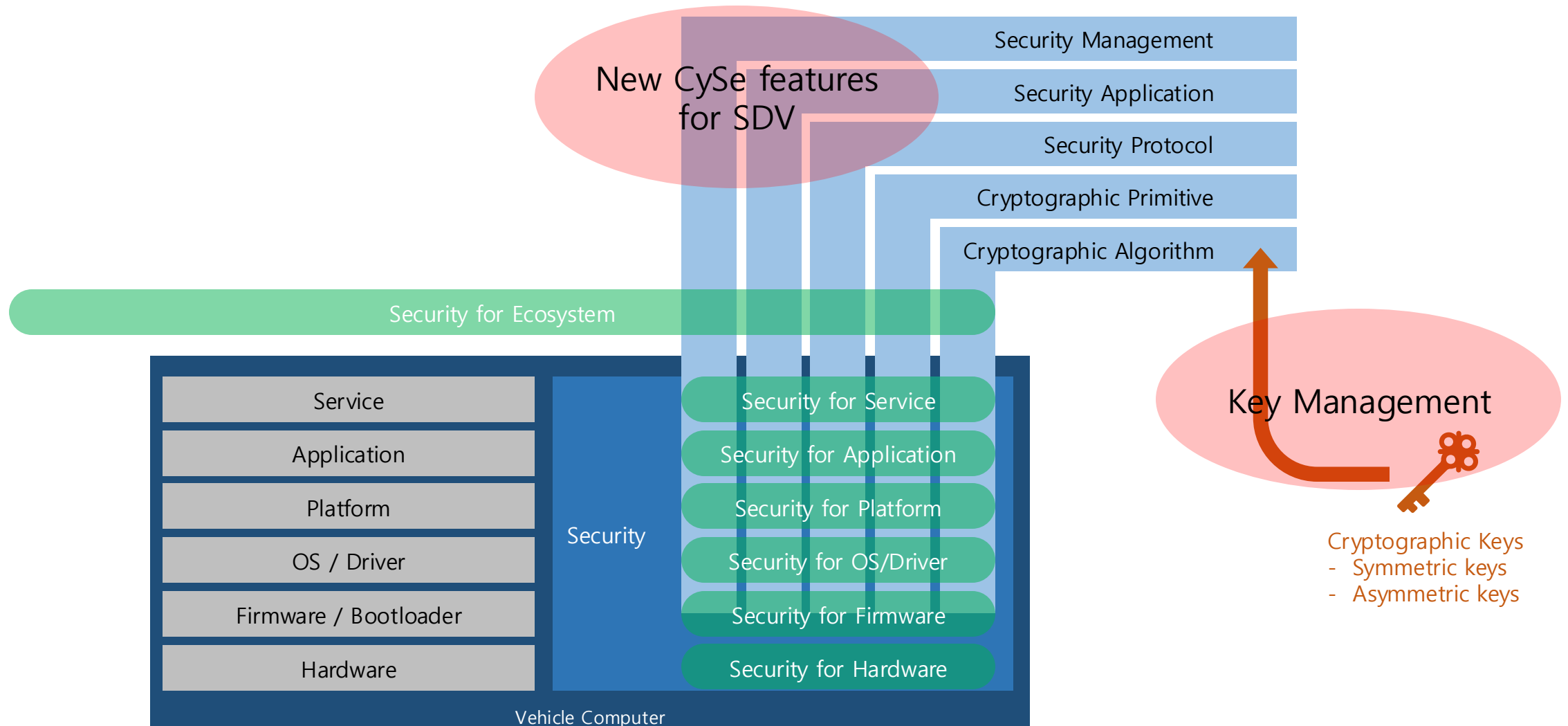


Key Management Lifecycle





Cybersecurity for SDV





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End of Document



Thank You!