

E/E-ARCHITECTURE IN A CONNECTED WORLD

Domain centralized E/E architecture

Required key technologies are covered

Advanced Gateways

Increased routing complexity and communication throughput.

Connected Car

Open E/E architecture with external communication, secure connection and SW download.

(FOTA/SOTA)

Communication Network

Higher bandwidth, flexible communication mechanism.

(Gbit Ethernet)

Domain ECUs

Powerful controller as integration platform for cross domain software components, high performance platform.

(non-automotive μ P)

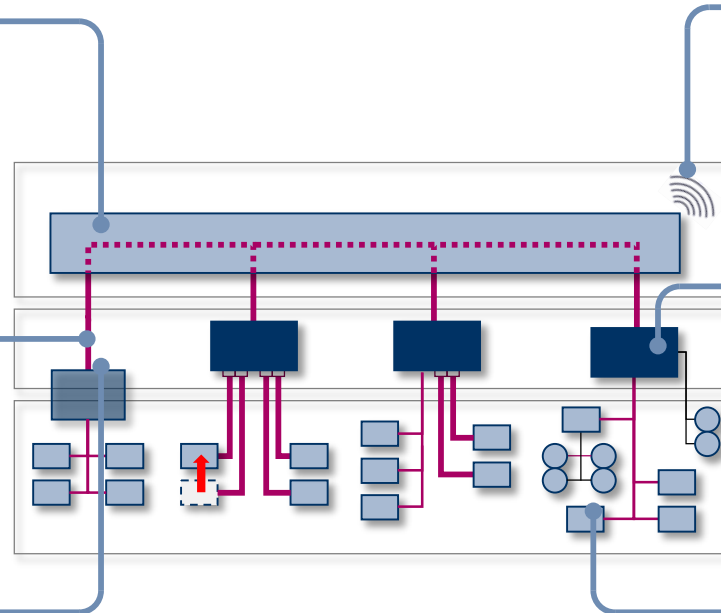
Integration Platform

Integration platform for superposed software components.

(Hypervisor)

Embedded System ECUs

Focusing on deep system specific functionalities.



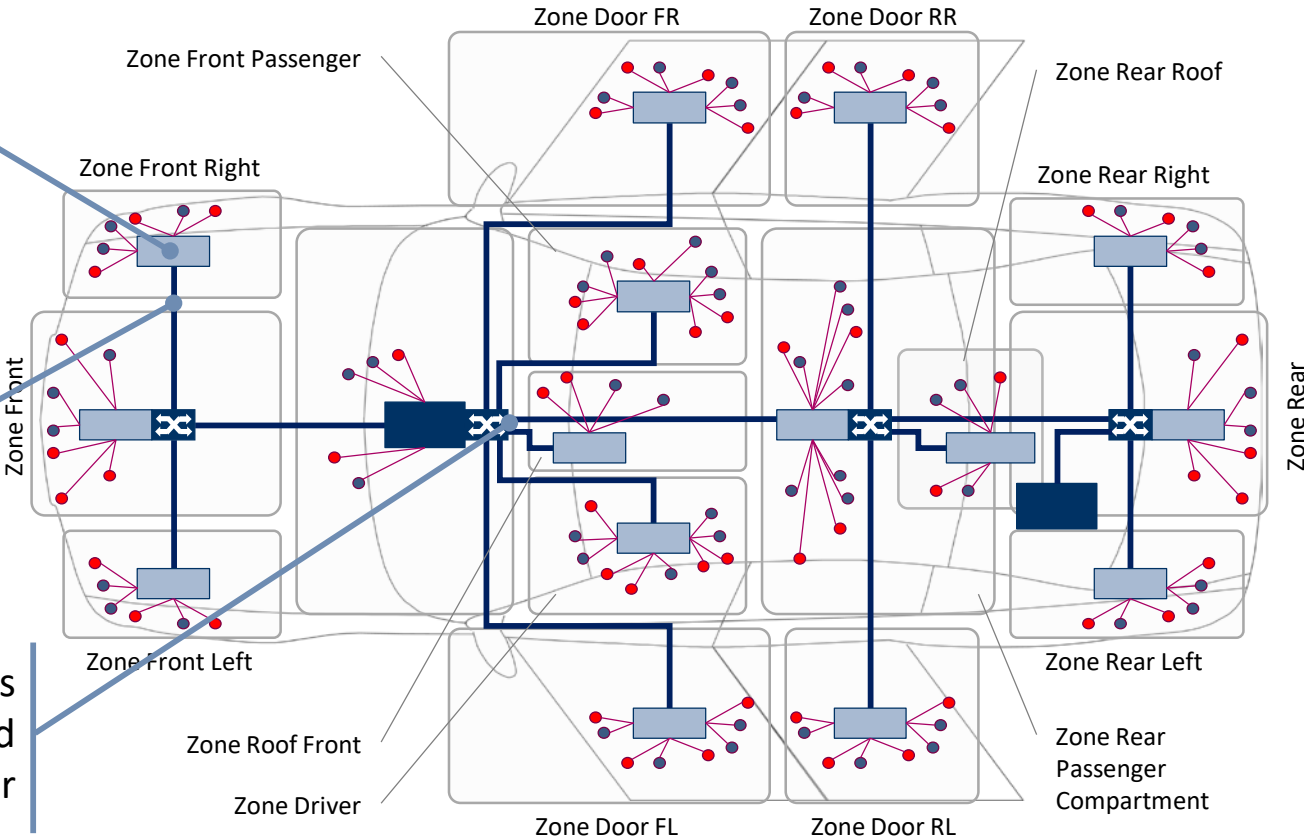
Vehicle centralized E/E architecture

Derived Concept

Cross domain **Zone ECUs** as zone specific I/O masters which act as an neural network for central ECUs

Cross Zone Communication
High bandwidth communication with Ethernet backbone

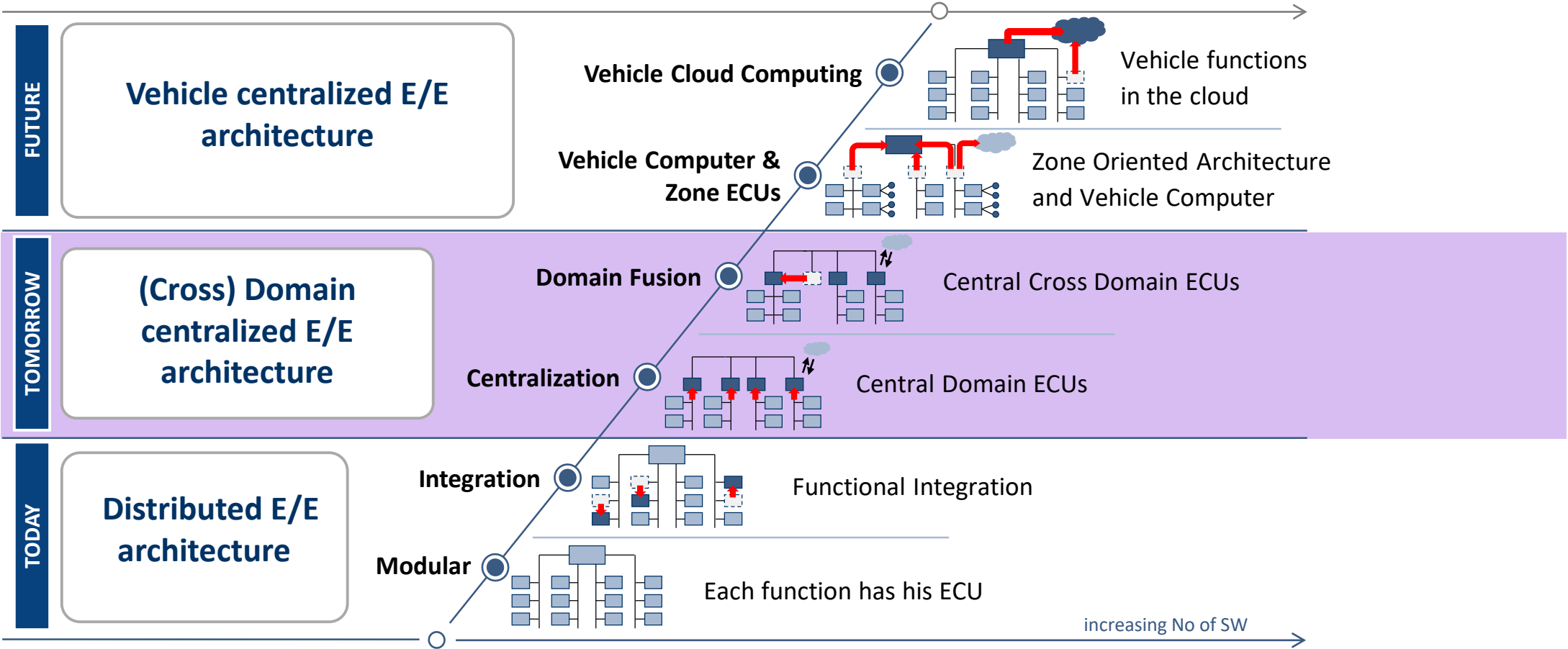
Vehicle Computer/Central ECUs as central calculation units (brains) and information provider



Schematic representation of zone approach

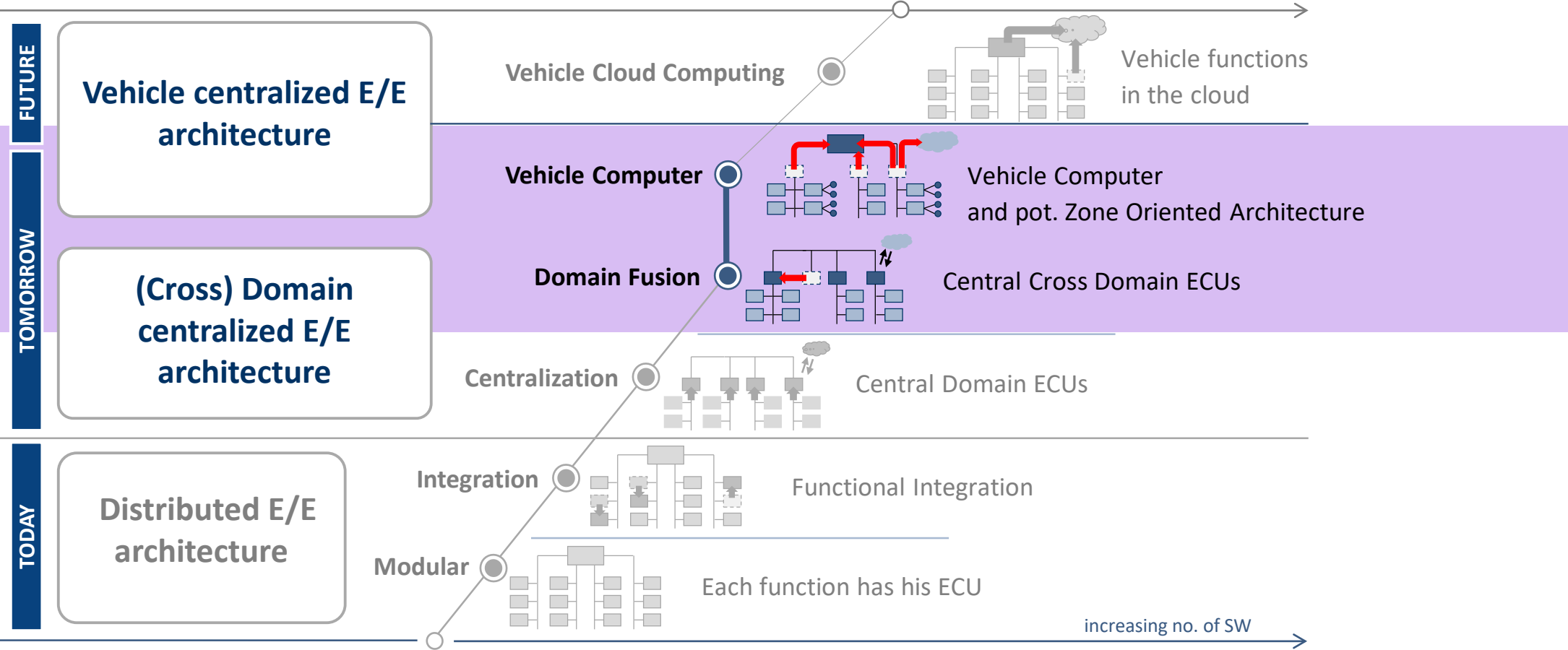
Roadmap E/E architecture

Past



Roadmap E/E architecture

Up to now



Wiring harness weight

Roughly 15-20% reduction by zone architecture

