Distributed System (ECU)

NVMe / SSD

System Knowledge Base

Artifact Repository

ASIL B

ASIL QM

Host VM

Camera App

Camera Driver

virtio-rdma

Linux Kernel

Guest VM

Camera App

virtio-camera

Shared memory

Hypervisor

Soft RoCE

virtio-net

virtio-pcie

Device Passthrough

External Devices

Camera

CPUs

Devices

SoC

PCIe / Ethernet

Remote vring / virtqueue

Remote Shared memory

ASIL B

Linux

Threat Estimation

virtio-camera

virtio-rdma

rpmsg

remoteproc

system resource manager

clocks

gpios

regulators

virtio

Hypervisor

Performance CPUs

Shared Devices

Safety Island

SoC

Local Shared memory

ASIL B

RTOS / Bare Metal

App

Container Runtime

OpenAMP

rpmsg

resource manager

virtio

Hypervisor-less / PMM

I2C / SPI /
GPIO / Ethernet

ASIL D

RTOS

MCO Agent

IC / IVI / ADAS
- Cluster apps
- Safety monitor
- CAN comm

Classic AUTOSAR

Motion Control

ACC State Machine

MCAL

MCU Cluster

CAN

PMIC

I2C / SPI

ASIL-D Domain ECU Farm (isolated)

ASIL D

Powertrain

Battery Management System

Inverter High/Low Power

Chassis

Braking

Steering

MCU Cluster