AUTOMOTIVE ACCESS POINT, CONNECTED GATEWAY BASED ON S32G2 PROCESSORS

Network accelerators enabling gateway and smart antenna integration in one box

OVERVIEW

The NXP connected gateway based on S32G2 processors integrates the functionality of a smart antenna and a service-oriented gateway. It also operates as a standalone box for gateway or smart antenna applications, according to a customer's application scenario.

This gateway's key functionalities include:

- High-performance wireless connectivity based on Wi-Fi® 6 with concurrent dual Wi-Fi 2 x 2 plus 2 x 2
- PCIe® interfacing to Wi-Fi 6, providing concurrent dual Wi-Fi support access point and station modes
- Enablement of more smart edge services with lower latency, e.g., C-V2X data process and fusion
- Asymmetric high-performance multiple cores, network accelerators and rich communication peripherals enable service-oriented gateway

TECHNICAL HIGHLIGHTS

- Network accelerator to offload core from overwhelming level of processing: packet forwarding, IPsec, QoS, etc., in data plane
- Cost down by possibly replacing cellular processor with thin-modem of 5G/C-V2X combination
- XRDC resource isolation protects critical tasks from malicious attacks

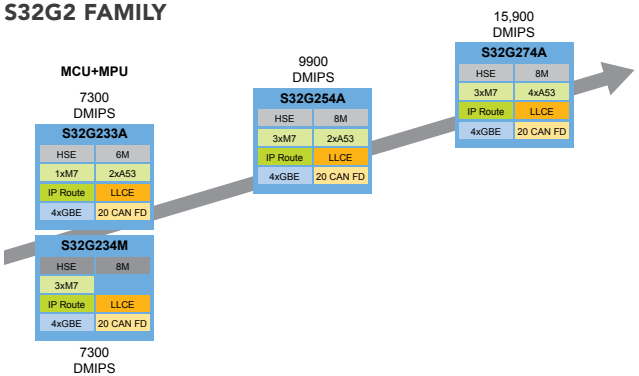
FEATURES

- Multi-core high performance, coupled with network accelerators for efficient packet processing and distribution
  - Up to 4x Cortex-A53 (1 GHz) performance cores
  - Up to 3x Cortex-M7 (400 MHz) safety cores
  - Automotive networks acceleration
  - Ethernet packet acceleration
- PCIe Gen3 channel with 5G/V2x comb modules enables more smart edge service
- PCIe interfacing to Wi-Fi6 providing concurrent dual Wi-Fi support Access Point and Station modes
- Peripherals:
  - 2x PCIe Gen3, 2-lane
  - 2.5 Gbps Ethernet, 3x1G Ethernet MAC
  - 16 LLCE CAN + 4 x FlexCAN
  - USB port for AT command interface
  - HSE module for security
  - XRDC for resource isolation

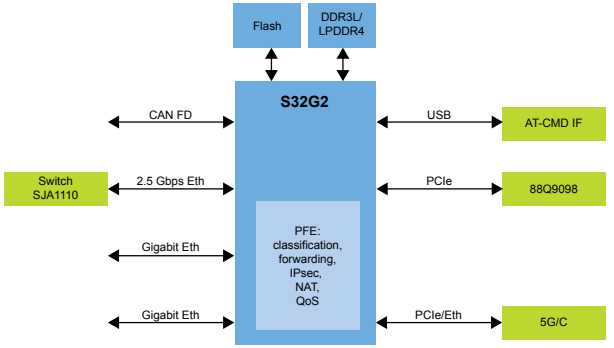
ENABLEMENT TOOLS

- S32 Design Studio and Software Development Kit
- Development hardware:
  - S32G-VNP-RDB2/GoldBox
- Software enablement:
  - Linux BSP
  - RTD for Autosar and non-Autosar
- Compiler: Green Hills, GCC
- Debugger: Lauterbach,S32 Debugger/Trace and Profiling Tools, Wind River

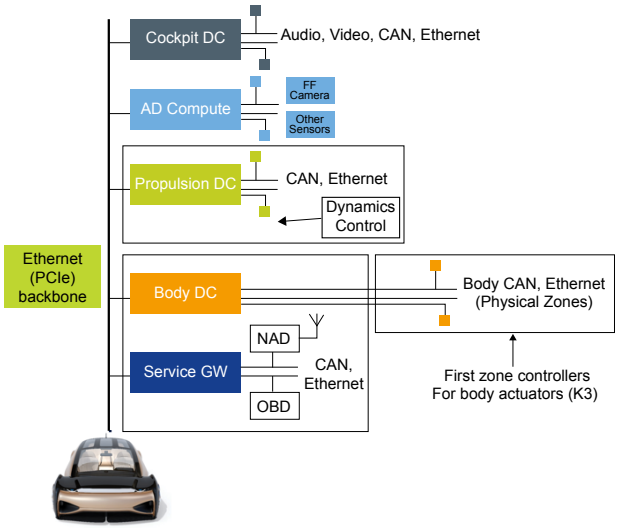
S32G2 FAMILY



SYSTEM BLOCK DIAGRAM



BLOCK DIAGRAM



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