NXP Automotive audio video bridging (AVB) software provides a complex AVB solution for multi-channel audio streaming and syntonized audio playback over multiple audio end nodes. It is optimized for the NXP Power Architecture© and Arm® Processors with minimal resource usage due to a "zero-copy" approach with advanced DMA support.

The AVB stack supports single-core and multi-core designs with different partitioning options. It implements synchronous data stream playback (accurate frequency and phase) for multi-channel audio streams received via Ethernet, an external source or memory. It further features audio sample rate conversion with correctly maintained data order within the TDM, a virtual Autosar Ethernet driver, an inter-core communication module, diagnostic data output (Ethernet/UART) and extended functions like audio output muting and locking.
Our Automotive Audio Video Bridging Software Block Diagram

NXP Autosar/OSEK OS

- Ethernet PHY Driver (Broad Reach)
- EAVB Ethernet
- Non-AVB Ethernet
- Ethernet MAC Driver (incl. traffic shaping)
- MDIO
- 1588/802.1AS Ethernet Hardware (counter/time stamper)
- Interface to external PLL

NXP Microcontroller

- gPTP Stack 802.1AS timing and synchronize
- IEEE 1722a Transport Protocol
- Audio Framework
- Config Control Monitoring
- Ethernet PHY Driver (Broad Reach)
- Ethernet PHY Driver (Broad Reach)
- Ethernet PHY Driver (Broad Reach)
- ASRC and TDM/SAI, DMA
- Shared Memory, Semaphores

Automotive General Block Diagram

- SERVICES / APPLICATION SOFTWARE
- MIDDLEWARE
- OS / DRIVERS / SAFETY
- HYPervisor (if available)
- ARM CORTEX CORE(S)
- FIRMWARE / HW ACCELERATORS
View additional information for **Automotive Ethernet Audio Video Bridging (AVB)**.

**Note:** The information on this document is subject to change without notice.