NXP Automotive audio video bridging (AVB) software provides a complex AVB solution for multi-channel audio streaming and synchronized 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

[Diagram showing the block diagram with various components and labels such as gPTP Stack, IEEE 1722a Transport Protocol, Audio Framework, NXP Autosar/OSEK OS, Ethernet PHY Driver (Broad Reach), Ethernet MAC Driver (incl. traffic shaping), MDIO, 1588/802.1AS Ethernet Hardware (counter/time stamper), Interface to external PLL, ASRC and TDM/SAI, DMA, Shared Memory, Semaphores, and NXP Microcontroller.]
Example of AVB Network

Automotive General Block Diagram

- **SERVICES / APPLICATION SOFTWARE**
- **MIDDLEWARE**
- **OS / DRIVERS / SAFETY**
- **HYPERTHERMAL (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.