Marvell Link Street Gateway 88E7251

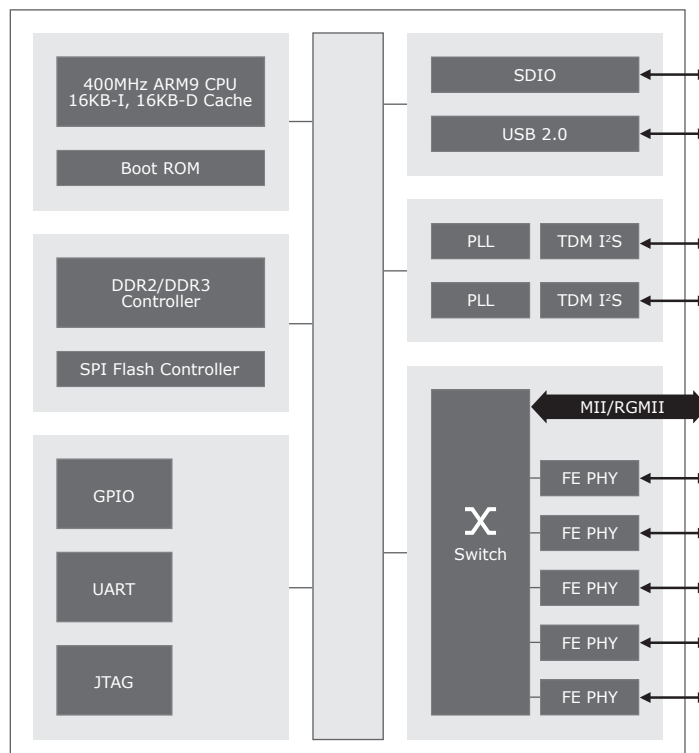## System-on-Chip Solution for Audio/Video Bridging Networks

PRODUCT OVERVIEW

The Marvell® Link Street® Gateway 88E7251 is a highly integrated system-on-chip (SoC) designed for cost-sensitive switch and gateway applications. It supports IEEE 802.1 and IEEE 1722 Audio/Video Bridging (AVB) standards which enable timing-sensitive streams (such as digital video, audio, or industrial control traffic) to be sent over the Ethernet network with low latency and guaranteed Quality of Service. This device uses the AVB technologies to identify and reserve the network resources for AVB traffic streams and supports precise isochronous streaming capability for reliable, high-quality multimedia streaming. Each TDM port has a dedicated PLL that enables synchronization of multiple end nodes and supports up to eight full-duplex channels.

The 88E7251 offers unparalleled integration that makes system design simple and cost-efficient. The SoC integrates the following:

- 400MHz ARM9 CPU

- 16KB instruction and 16KB data 4-way, set associative L1 cache

- 8-bit DDR2/DDR3 memory interface (up to 400MHz data rate)

- Boot ROM enables boot from SPI, UART, or Ethernet (Port 0 PHY or MII)

- Integrated fast Ethernet AVB switch with five integrated PHYs and MII/RMII/RGMII interface

- Single USB 2.0 port with integrated PHY

- Two AVB time-aware TDM/I2S ports each supporting eight-channel full-duplex audio with independent PLL
  – Supports up to 192kHz audio streams

- SDIO, SPI flash, and UART interfaces

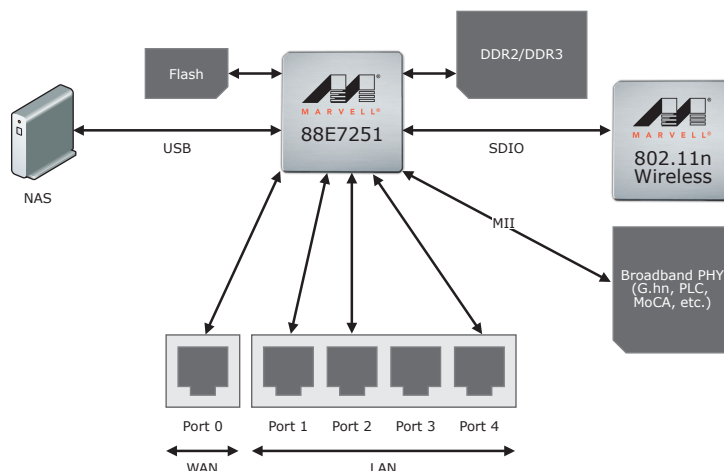- 128-pin QFP (14x20mm) package

- Power consumption <1W

BLOCK DIAGRAM

▶ COMPREHENSIVE DEVELOPMENT TOOLS

Marvell offers a complete development platform for the 88E7251, enabling customers to start system development without waiting for their own hardware. The development platform, including design schematics, software drivers, and Linux board support package, accelerates customer product development cycles.

THE MARVELL ADVANTAGE: Marvell chipsets come with complete reference designs which include board layout designs, software, manufacturing diagnostic tools, documentation, and other items to assist customers with product evaluation and production. Marvell's worldwide field application engineers collaborate closely with end customers to develop and deliver new leading-edge products for quick time-to-market. Marvell utilizes world-leading semiconductor foundry and packaging services to reliably deliver high-volume and low-cost total solutions.

ABOUT MARVELL: Marvell is a leader in storage, communications, and consumer silicon solutions. Marvell's diverse product portfolio includes switching, transceiver, communications controller, processor, wireless, power management, and storage solutions that power the entire communications infrastructure, including enterprise, metro, home, storage, and digital entertainment solutions. For more information, visit our Web site at www.marvell.com.