OCTEON Plus Gigabit Ethernet AMC board

Target Applications:

- Network Service Processing
- Storage Service Processing
- Security Service Processing
- Micro TCA systems
- ATCA systems
- Custom systems
- Reference for custom board designs

Features and Benefits:

- Front Panel:
  - Up to 4 Copper or Fiber GE ports
- AMC connector:
  - Ports [3:0]: up to 4 GE SerDes
  - Ports [11:4]: x8 PCI; or x4 PCIe + XAUI; or x4 PCIe + 4 GE SerDes
- Single width, Full size
- Processor:
  - CN54xx or CN55xx or CN56xx or CN57xx
- Memory:
  - Up to 2GB DDR2
  - 8MB PSRAM
- Boot options:
  - On board NOR Flash
- Software:
  - Uboot, POST, Linux BSP

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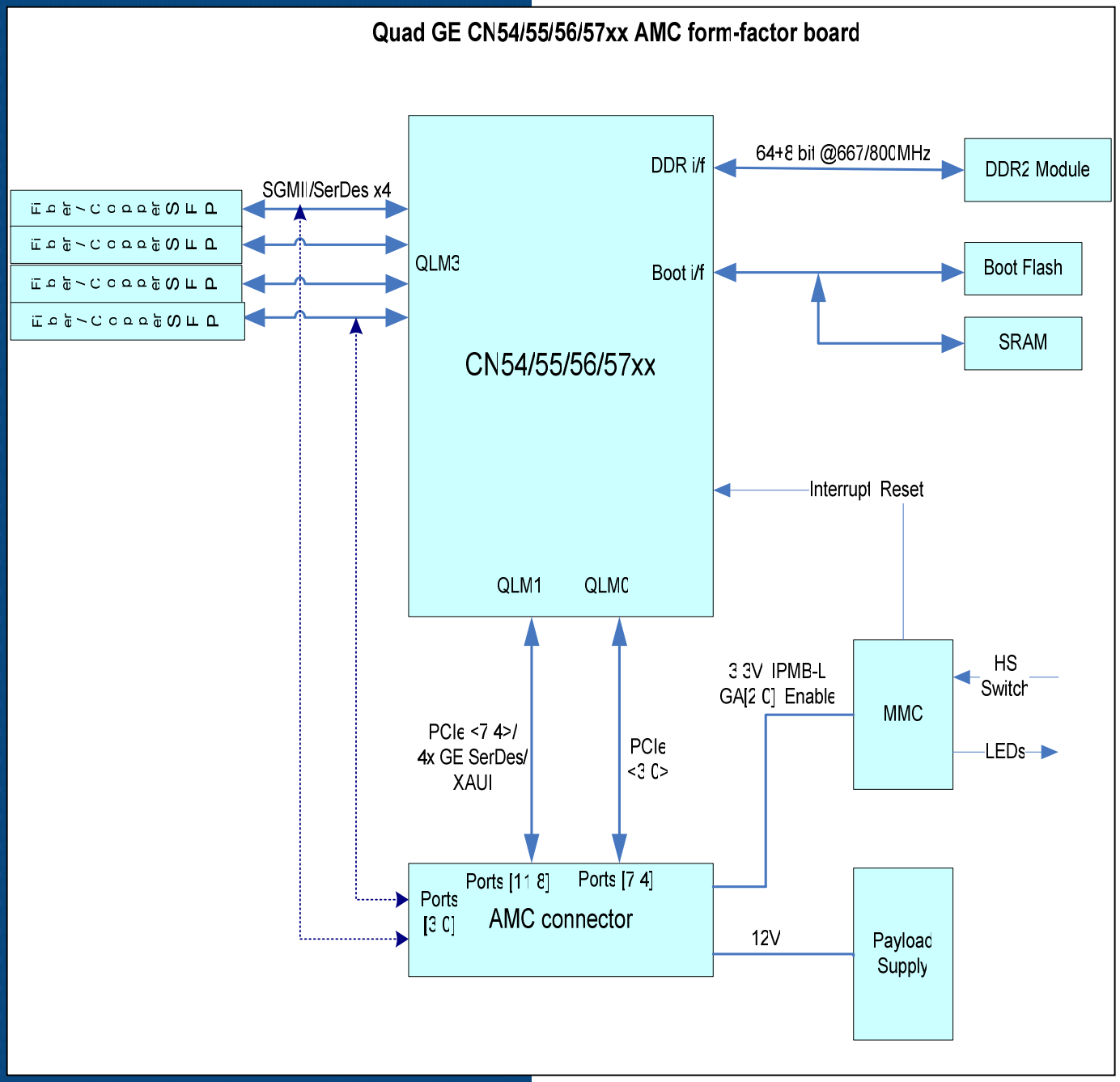
Octeon Plus Gigabit Ethernet AMC board is based on Cavium's Octeon CN54/55/56/57xx family of Network Services Processors. The board is a single-width, full-size module with up to 2 GB of 64-bit DDR-2 memory supporting speeds up to 667MHz and 8-bit ECC support, NOR flash memory on the boot bus supporting flexible boot options and a PSRAM on the boot bus as a persistent memory to log system information over system reset/crash. The front panel of the board comprises of a quad SFP module supporting GE copper or fiber interfaces. CN54/55/56/57xx natively supports SGMII/1000BASEX interface eliminating the need of a PHY device between the SFP module and the processor. The AMC connector provides x4 PCIe (or x8 PCIe) and 10 Gigabit XAUI Ethernet/Gigabit Ethernet interface. When x8 PCIe is used, the 10 Gigabit XAUI Ethernet/Gigabit Ethernet is not available. An on-board micro controller acts as the management controller called the Module Management Controller (MMC) and is connected to the carrier board/system management bus.

About the CPU

The OCTEON Plus CN54/55/56/57xx multi-core processor family supports 4-12 MIPS64 cores. CN54/55xx processors support 4-6 MIPS64 cores running at up to 700MHz speed. CN56/57xx processors support 8-12 MIPS64 cores running at up to 900MHz speed. CN54/56xx processors are optimized for Network Services Processing applications acceleration. CN55/57xx processors are optimized for Secure Storage Processing applications acceleration.

Specifications

- Based on Cavium's OCTEON Plus CN54/55/56/57xx family of multi-core MIPS64 Processors
- Up to 2 Giga byte 64-bit wide DDR2-667 SDRAM with 8-bit ECC support
- 64 Mega byte NOR flash memory on the boot bus and an 8 Mega byte of PSRAM as a persistent memory to log system information over a system reset/crash
- PCIe target or host functionality
- Up to 4 Fiber/Copper SFP ports available towards the front panel
- Board can be configured to provide following interfaces towards the AMC connector
  - o Common interface: up to 4 GigE SerDes
  - o Fat Pipe: x4 PCIe + XAUI or x4 PCIe + 4 GE SerDes or x8 PCIe
- Less than 40-Watt of Power consumption depending on number of Processor cores and clock speeds



Specifications (cntd.)

- +12V DC payload power and +3.3V DC management power input from the AMC connector
- AMC full-size single width module PCB dimension

AdvancedMC compliance

- Advanced Mezzanine Card Base Specification single-width, full-height module – PICMG AMC.0 R2.0
- AMC.1 – PCI Express Type 4 or Type 8 or Type 4E or Type 8E
- AMC.2 – AMC Gigabit Ethernet Type 4 or 10 Gigabit XAUI Ethernet
- Hot swap module
- Supports MMC with IPMI 1.5 functionality

Software support

- Uboot, POST
- Linux Board Support Package for Cavium SDK
- Support for boot over PCI

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