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Freescale aims network processor at industrial apps

Jun. 11, 2007

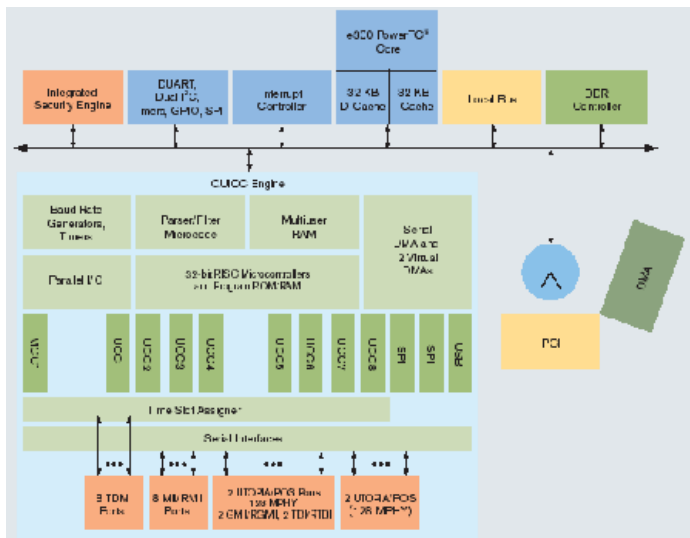
Freescale is readying a reference design kit that promotes its PowerQUICC II SoCs (system-on-chip processors) in industrial automation and control applications. Due in Q3, the MPC8360E-RDK includes a COM Express processor module based on the MPC8360E, said to be inexpensively re-programmable in microcode to accelerate complex industrial networking protocols.

The MPC8360E-RDK will include a baseboard, LCD module, and touchscreen, along with a "production-ready," industrial temperature-range COM Express module manufactured by Logic Product Development. According to Freescale, [COM Express](#) boards (as pictured at right) have emerged as a "preferred standard" for industrial markets, thanks to "modularity, compact size, ruggedness, and rich set of high speed serial and I/O interfaces."

The MPC8360E-RDK is based on Freescale's [MPC8360E](#) processor, which originally targeted networking applications. The SoC has an e300 PowerPC core clocked from 266MHz to 667MHz, along with Freescale's microcode-programmable QUICC engine, clocked up to 500MHz.



COM Express module format
(Click for details)



Freescale MPC8360E architecture
(Click to enlarge)

The MPC8360E SoC's QUICC engine can be [programmed in microcode](#) to optimize the MPC8360E for complex industrial protocols. The MPC8360E-RDK will ship with trial versions of two third-party microcode implementations:

- A [PROFIBUS](#) implementation from [IndusRAD](#)
- An [IEEE 1588](#) protocol implementation from [IXXAT](#)

Alternatively, users can write their own microcode for the QUICC engine, using tools available from Freescale, by taking part in Freescale's [Open QUICC Engine](#)



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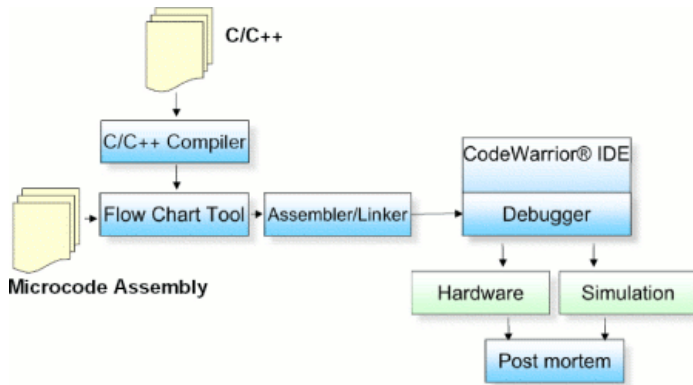


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QUICC Engine programming flow diagram
(Source: Freescale)

Tony Massimini, CTO of Semico Research, stated, "The security and reliability that made PowerQUICC technology pervasive in networking markets should translate well to industrial markets. Industrial markets continue to migrate from customized processors to established, off-the-shelf SoCs like the PowerQUICC MPC8360E, and equipment manufacturers can look forward to lower costs, enhanced flexibility and greater software reuse."

Availability

The MPC8360E-RDK is expected to ship in Q3, priced under \$1,000. Software options will include Wind River Linux or VxWorks, and CodeWarrior tools.

Freescale will demonstrate the MPC8360E-RDK at its [Freescale Technology Forum](#) later this month in Orlando, Fla.

Additionally, several COM Express modules based on the MPC8360E will be available in quantity direct from Logic Products. These include:

- COMMPC8360-10-1652LCR
 - \$324
 - 400 MHz
 - 128 MB SDRAM
 - 64 MB NAND
 - 8 MB NOR
 - 2x10/100 Ethernet
- COMMPC8360E-10-2752FCR
 - \$476
 - 667 MHz
 - 256 MB SDRAM
 - 64 MB NAND
 - 8 MB NOR
 - 2x10/100/1000 Ethernet
 - Graphics, Touchscreen

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