

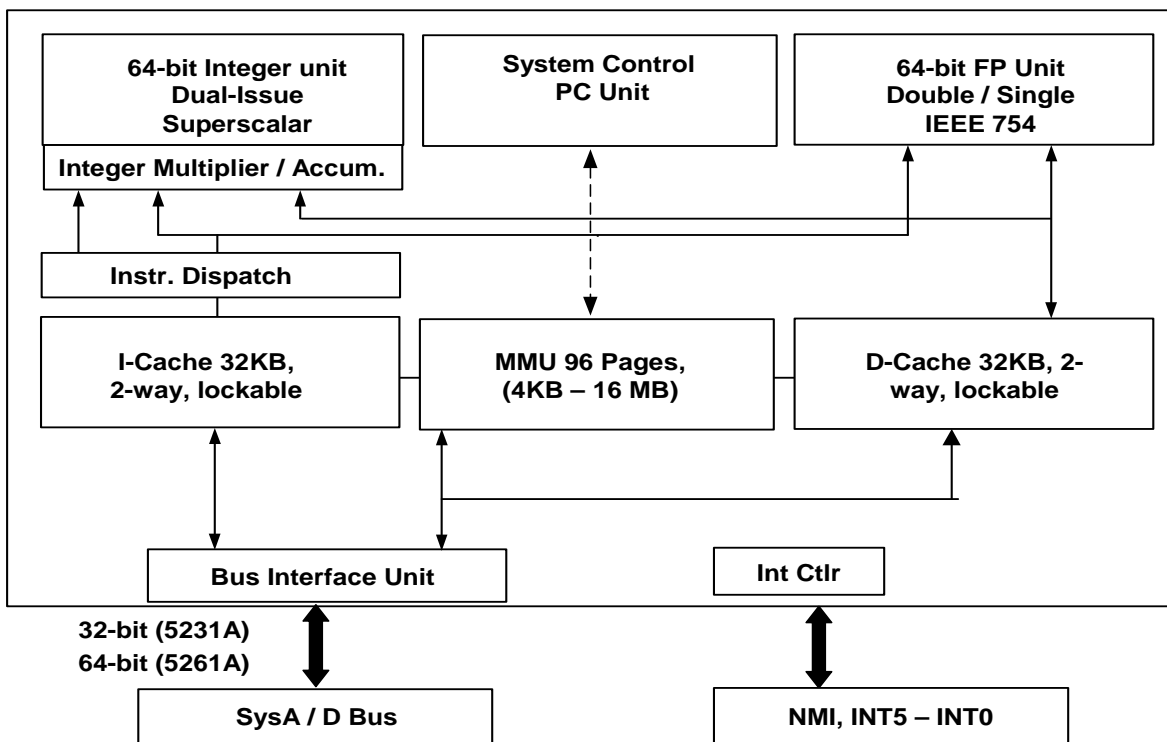
64-Bit MIPS RISC Microprocessor with 32/64-Bit System Bus

FEATURES

- Dual-Issue 64-bit Superscalar architecture
 - High-performance 64-bit integer unit
 - High-throughput fully pipelined 64-bit floating point unit (IEEE754)
- High performance SysAD interface
 - 32-bit or 64-bit multiplexed system address/data bus for optimum price/performance
 - Available with 32-bit or 64-bit external bus interface
 - Supports fractional clock ratios
 - IEEE 1149.1 JTAG boundary scan
- Integrated primary caches
 - 32KB instruction - 2-way set associative
 - 32KB data - 2-way set associative
 - Virtually indexed, physically tagged
 - Write-back and write-through on per-page basis
 - Pipeline restart on first double word for data cache misses
- 64-bit MIPS instruction set architecture
 - Floating point multiply-add instruction increases performance in signal processing and graphics applications
 - Conditional moves to reduce branch frequency
 - Index address modes (register + register)
- Integrated memory management
 - Fully associative joint TLB (shared by I and D transistors)
 - 48 dual entries map 96 pages
 - Variable page size (4KB to 16MB)
- Embedded application enhancements
 - Specialized DSP integer Multiply-Accumulate instructions (MAD/MADU) and 3 operand Multiply instruction (MUL)
 - Instruction and Data cache locking by set
 - Optional dedicated exception vector for interrupts

Device	CPU Frequency (MHz)	I/D Cache	External Cache Support	External Bus Width	External Bus Frequency (MHz)	VccInt (V)	VccIO (V)	Package
RM5231A	250, 300, 350	32K/32K	No	32-bit	100	1.65/1.8	2.5/3.3	128 QFP
RM5261A	250, 300, 350	32K/32K	No	64-bit	125	1.65/1.8	2.5/3.3	208 QFP

BLOCK DIAGRAM

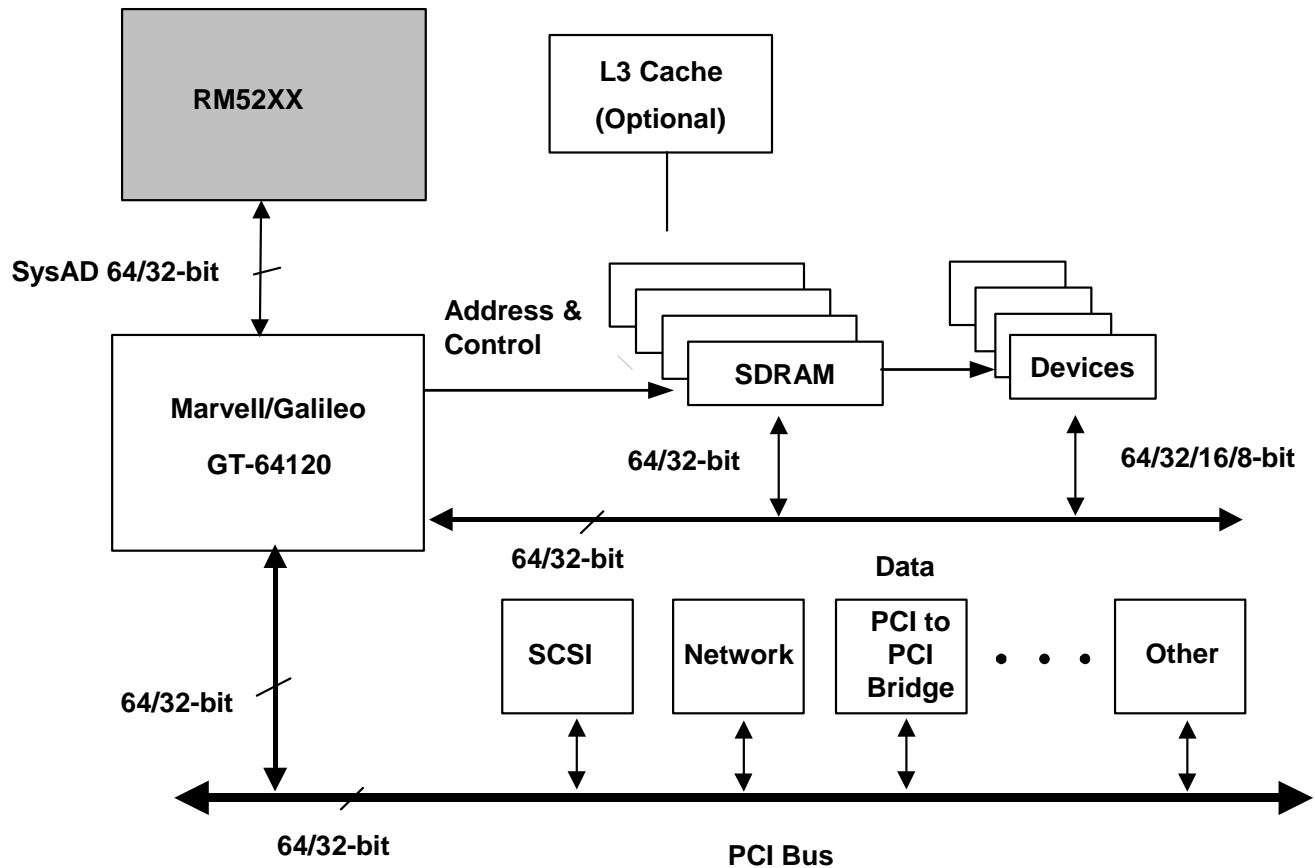


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DEVELOPMENT TOOLS

- Operating Systems:
 - Linux by MontaVista and Red Hat
 - VxWorks by Wind River Systems
 - Nucleus by Accelerated Technology
 - Neutrino by QNX Software Systems
- Compiler Suites
 - Algorithmics
 - Green Hills Software
 - Red Hat
- Evaluation Boards and Companion Chips
 - Algorithmics:
 - P-6032 (RM5231A): 32-bit, 33MHz PCI
 - P-4052 (RM5231A): 32-bit, 33MHz PCI
 - Galileo Technology
 - EV-64120A: (RM5261A): 32/64-bit, 33/66MHz PCI
 - EV-64115 (RM5231A): 32-bit, 33/66MHz PCI
- V3 Semiconductor
 - V320USC (RM5231A): 32-bit, 50MHz PC
 - V340HPC (RM5261A): 64-bit, 66MHz PCI
- Logic Analyzers and Emulation
 - HP
 - Tektronix
 - Corelis
 - Crescent Heart Software

TYPICAL APPLICATION



Head Office:
 PMC-Sierra, Inc.
 8555 Baxter Place
 Burnaby, B.C. V5A 4V7
 Canada
 Tel: 604.415.6000
 Fax: 604.415.6200

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