

Date	Machine	Feature: First to Have
early 1940's	A. Turing's special purpose machine	binary representation
1946 (done)	ENIAC (Eckert & Mauchly)	first electronic, programmable general-purpose computer
		conditional branch
1947 (start)	Whirlwind (MIT)	magnetic core (2K)
		VDTs
		light pens
		use of computer for control
		use of mirrored computers for fault tolerance
1949 (done)	EDSAC (Wilkes)	accumulator-based architecture
		stored program computer
?	Mark III (Aiken)	Harvard architecture applied to memories
1951	UNIVAC 1	vacuum tubes
		interrupts
		first commercially successful computer
1954	NBSA DYSEAC	asynchronous I/O events
1955	IBM Sage	DMA
1956	Pegasus	general-purpose register machine (8 registers)
		R0 = 0
	IBM RAMAC	magnetic disk
1961	IBM Stretch (7030)	pipelining (4 stages)
		term 'byte'
1962	Atlas	virtual memory
		page protection
1963	Burroughs 5000	stack machine
		HLL OS (MCP)
1964	IBM 360	microcode
		byte addressable (8 bit bytes)
		separation of architecture & implementation
		heavy use of DMA
		I/O programs interpreted by DMA controller
		360/85: cache
1964	CDC 6600	first supercomputer
		general purpose LD/ST machine -> efficient pipelining
		I/O processor (peripheral processors)
		scoreboarding
		multiple functional units
		multiple hardware contexts (sort of)
1965	DEC PDP-8	first minicomputer
	Winchester disk	sealed disk & reader

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1967	IBM 360/91	Tomasulo's algorithm: dynamic detection of memory hazards, generalized forwarding, reservation stations but no in-order commit (imprecise interrupts)
1968	Burroughs 6500	hardware-managed activation records
1970	DEC PDP-11	multi-vendor bus (Unibus)
1971	Intel	transistor
	Symbol	high level language architecture
1972	IBM 370	TLB
	Arpanet	long haul network
	CDC Star-100	vector units
		gather, scatter support
	TIASC	vector units
1974	Alto	first workstation
		bitmapmed display, windows
		mouse
		laser printer
		ethernet
1975 (start)	IBM 801	first RISC machine
1976	Cray-1	vector chaining
1978	VAX 780	HLL functionality moved to instruction set (CISC)
		memory-memory architecture
		orthogonal instruction set design
1977	FPS AP-120B	wide instruction word machine
1978	Apple II	first personal computer
1984	Synapse N+1	bus-based multiprocessor with snooping caches
1986	Sun 3/260	cache hierarchy in a micro
	R2000	first commercial RISC
1990	IBM RS6000	first superscalar RISC
	MIPS R6000	compiler hints for branch direction
	DEC 21064	branch history information on a microprocessor
	Intel P6	correlated branch prediction
1992	KSR-1	scalable coherent shared memory
		COMA

Let me know of any corrections or additions, eggert@cs.