



TABLE 1 FAST-PROTOTYPING-SYSTEM, ACCELERATOR, AND EMULATOR VENDORS

Company	System	Type	FPGA or custom processor	No. of ASIC gates	Built-in software (partitioning, debugging)
Cadence Design Systems	Xtreme Series	Accelerator/emulator	FPGA with reconfigurable-computing coprocessors	4 million to 50 million	Partitioning and debugging software
	Palladium Series	Accelerator/emulator	Custom ASIC processor based	4 million to 256 million	Partitioning and debugging software
The Dini Group	DN8000k10	Prototyping system	Virtex-4 FPGA based	1.5 million to 24 million	None, must use Synplicity
EVE	ZeBu (Zero Bugs)	Emulator	Virtex-4 FPGA based	750,000 to 6 million for PCI-card-based system or 48 million for box	Automated partitioning and debugging
Flexody	FlexCube	Prototyping system	Virtex-4 FPGAs	1 million to 18 million	ARPCom
Gidel	Processor board and tools	Emulator and prototyping systems	Stratix II FPGAs	60,000 to 20 million	Simulation acceleration, hardware/software integration, debugging
Hardi Electronics	HAPS (ASIC-prototyping system)	Prototyping system	Virtex-4 FPGAs	3 million to more than 30 million	Self-test, no configuration necessary
Mentor Graphics	VStationPro	Hardware emulator	FPGA	1.6 million to 60 million	Fully automated compilation, fully integrated debugging capability
ProDesign Electronics	Chipit (silver, gold, platinum)	Prototyping system	Virtex-4, -2, and -Pro FPGA based	30,000 to 20 million	Yes
Tharas Systems	Hammer S-Class	Accelerator/emulator	Multicore custom processor	8 million to 16 million	Compiler for Verilog and VHDL
	Hammer M-Class	Accelerator/emulator	Multicore custom processor	32 million to 256 million	Compiler for Verilog and VHDL

Price per gate	Starting price	Price of fully loaded system	Rental available	Architecture
Starts at \$0.036	\$144,000, including maintenance	\$6 million for multiuser, 50 million-gate system; \$3 million for single-user, 50 million-gate system	Perpetual license or time-based license	Event-based
Starts at \$0.072	\$288,000, including maintenance	\$38 million for 256 million-gate Palladium II, \$15.4 million for 128 million-gate Palladium I	Perpetual license or time-based license	Cycle-based, scheduled
Less than \$0.01	\$11,000	\$135,000	No	Cycle-based
\$0.02	\$25,000	\$300,000	Yes	Both
\$0.03	\$120,000	\$440,000	Rent or buy	NA
Less than \$0.01	\$1345	\$140,000	Buy	Cycle-based to free clock
\$0.01	\$9000	\$69,900	No	Both
\$0.09	\$450,000	\$5.7 million	Yes	NA
\$0.01 to \$0.02	\$10,000	Less than \$500,000	No	Cycle-based
\$0.03	\$250,000	\$525,000 to \$925,000	Six-month minimum rental, perpetual license, or subscription	Event-based
\$0.06	\$1 million	\$1.275 million to \$1.875 million	Six-month minimum rental, perpetual license, or subscription	Event-based