Instructions efficiently as well as to assist in multiply and other miscellaneous operations. It can shift any data type by any shift count in a single clock, and it is significantly faster than an ALU/microcode implementation.

Multiply/divide hardware. A one-bit-per-clock multiply/divide mechanism permits a 32-bit multiply or divide in 40 clocks, maximum. To speed multiply execution, additional special hardware is included to detect early completion of a multiply and correctly terminate the operation. Early completion of a multiply is detected when all significant multiplier bits have been exhausted and the final product can be obtained by an appropriate shift operation. Since many multiply operations do not require the full 32-bit multiply, the average number of clocks needed for a multiply is 20.

The 80386 represents the state of the art in 32-bit microprocessor architecture and performance. It maintains object code compatibility with existing members of the 86 family of microprocessors, thus protecting end users' investments in software. Its implementation exploits pipelining and parallel execution to provide high performance. These characteristics make it an excellent candidate for application in engineering workstations, office systems, and robotic and control systems.

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