Real Mode Encyclopedia Article

Real Mode

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Real Mode

Real mode is an operating mode of x86 **microprocessor** chips that emulates the **memory** management used by the 8086 or 8088 microprocessor chips manufactured by **Intel**. The real mode of execution is supported by Intel 80286 processors ad those developed subsequently.

Real mode limits the processor to 1MB of memory and does not provide any memory management or memory protection. In real mode, adding a so-called address offset to an existing segment **register** creates addresses. This generates an address that is 20 bits long. In another mode, called protected mode, memory protection and management features are available, as the segment register can link to a table of descriptors. The descriptors contain the memory protection information. The protected mode also supports **multitasking**, while real mode does not.

Examples of real mode of **operation** include the drivers that support various devices and MS-DOS. The 80386 and later microprocessors also support a third mode called virtual 8086 mode. In virtual mode, the microprocessors can run several real mode programs simultaneously.