Dual In-line Memory Module (DIMM)

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Dual In-line Memory Module (DIMM) is a type of computer memory that is natively 64 bits, enabling fast data transfer. DIMM is a module that contains one or several Random Access Memory (RAM) chips on a small circuit board with pins that connect it to the computer motherboard. The DIMM stores each data bit in a separate memory cell. DIMMs use a 64-bit data path, since processors used in personal computers have a 64-bit data width. DIMMs are typically used in desktop PCs, laptops, printers and other devices.

A SIMM (single in-line memory module) typically has a 32 data bit (36 bits counting parity bits) path to the computer that requires a 72-pin connector. For Static Random Access Memory (SRAM) chips, which have a 64 data bit connection to the computer, SIMMs must be installed in in-line pairs, since each one supports a 32-bit path. A single DIMM can be used instead. Originally, a DIMM had a 168-pin connector to support 64-bit data transfer.

As faster Dynamic Random Access Memory (DRAM) was developed, DIMM circuit boards evolved. Modern DIMMs based on double data rate fourth generation (DDR4) SDRAM chips use 288-pin connectors to attach to the computer motherboard to enable the increase in data throughput. As clock speeds of the RAM chips increased, the 64-bit path handled increasing amounts of data.

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