

Multiprocessing Systems

- A computer's capability to process more than one task simultaneously is called multiprocessing.
- A multiprocessing Operating System is capable of running many programs simultaneously, and most modern network Operating Systems (NOSs) support multiprocessing.
- These Operating systems include Windows NT, 2000, XP and UNIX.

Why Use Multiprocessing OS ?

- By permitting parallel processing of different portions of programs, enhances the performance of the computer systems.
- In addition to the CPUs, it also facilitates the more effective utilization of other devices that saves money.
- Multiprocessing provides the facility of built-in backup. If one of the CPUs break down, the other CPUs automatically controls the complete workload until repairs are made.

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16	17	18	19	20	21	22
23	24	25	26	27	28	29

- Thus, a complete breakdown of such a system is very rare, so that reliability of system increase.

Advantage :

- (i) Increase throughput.
- (ii) Economy of scale.
- (iii) Increased reliability.

Disadvantage :

- (i) If one processor fails then it will affect in the speed.
- (ii) Multiprocessor systems are expensive.
- (iii) Complex OS is required.
- (iv) Large main memory required.

- The main reason why multiprocessing is more complicated than single-processing is that their operating systems are responsible for allocating resources to competing in a controlled environment.
- A multiprocessing system uses more than one processor to process any given workload, increasing the performance of a system's application environment beyond that of a single processor's capability.