

Time sharing system Time sharing (or multitasking) is a logical extension of multiprogramming. They communicate with each other through various communication lines or telephone lines. The reasons for creating such systems are as follows: increase in processing capacity, save the acquisition cost compared to several mono-systems, increase reliability (harmonious degradation), augmenter la fiabilité (degradation harmonieuse). Multiprocessor systems use two OS models: symmetric multiprocessing: each processor executes an identical copy of the OS and these copies communicate with each other. Time-sharing systems are characterized by: sharing of CPU time in quantum, allocation of the processor to a program during a quantum, taking into account new programs, very satisfactory degree of interactivity. Instead of maximizing CPU and peripheral usage, they opted for user convenience and responsiveness. The Sun OS Version 4 OS is an asymmetric multiprocessing OS.

1-4-4 Distributed systems

In these systems the processors are loosely coupled, each processor has its own local memory and its clock. They are microcomputers much smaller and less expensive than mainframes, their operating systems were neither multi-user nor multi-tasking; their goals have changed over time. The sensors bring data to the computer, which must analyze it and possibly adjust the controls to modify the sensor inputs. Several programs are executed by the CPU which switches between them but the switches are so frequent that users can interact with each program while it is running. An interactive or assisted computer system allows online communication between the user and the system. It is used in the control of dedicated applications (control of a nuclear power plant, robotic assembly line, autopilot, etc.). This goal requires that all system delays be limited, from the retrieval of stored data until the end of a query time. A timesharing OS allows users to share the computer simultaneously. In a master-slave scheme.