

SECOND TERM ENOTE

CLASS : SS 3

Parallel database

A parallel database system seeks to improve performance through parallelization of various operations, such as loading data, building indexes and evaluating queries. Although data may be stored in a distributed fashion, the distribution is governed solely by performance considerations. Parallel databases improve processing and input/output speeds by using multiple CPUs and disks in parallel. Centralized and client-server database systems are not powerful enough to handle such applications. In parallel processing, many operations are performed simultaneously, as opposed to serial processing, in which the computational steps are performed sequentially.

Architectures of parallel Database

Shared memory architecture

Where multiple processors share the main memory (RAM)space but each processor has its own disk (HDD). If many processes run simultaneously, the speed is reduced, the same as a computer when many parallel tasks run and the computer slows down.

Shared disk architecture

Where each node has its own main memory, but all nodes share mass storage, usually a storage area network. In practice, each node usually also has multiple processors.

Shared nothing architecture

Where each node has its own mass storage as well as...