1 Distributed Databases

Database Reading Group

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2 Overview

- A distributed database (DDB) is a collection of multiple logically interrelated databases distributed over a computer network
- A distributed DBMS is a software system that manages a distributed database while making the distribution transparent to the user
- Parallel *versus* Distributed Databases
  - Parallel database: "shared-something" (e.g., shared memory, shared disk, or both)
  - Distributed database: shared-nothing
- Advantages of DDB
  - Management of distributed data with different levels of transparency
  - Increased reliability and availability
  - Improved performance (data localization)
  - Easier expansion
- Additional functions of DDB
  - Keeping track of data
  - Distributed query processing
  - Distributed transaction management
  - Replicated data management
  - Distributed database recovery
  - Security
  - Distributed directory (catalog) management